



CKC ARCHIVES
This was considered cool once!

VTEC WESTIE
Quicker than you'd believe



complete KITCAR

NEW DNA

BMW Z3 based replica
of classic California

JANUARY 2016 £4.75



BUILD DRIVE ENJOY • BUILD DRIVE ENJOY • BUILD DRIVE ENJOY • BUILD DRIVE ENJOY

HEALY ENIGMA

Folding hard-top, mod cons, room for golf clubs
Is this a kit car that out-Merces an SLK?



**Bobbing Along...
Dutton Surf on the water!**



RACE DIARIES • NEW PRODUCTS • INDUSTRY AND CLUB NEWS • OUR CARS • SHOW REPORTS • EVENTS DIARY



OFFSETS

Understanding
what wheel offset
you need

DIARIES

Updates from
our regular kit
car builders



DNA BUILD

DNA 4Thirty build
that proves bodykits
deserve more credit



New Products 2015

Helicoils Thread repair kits

- M5 - M14
 - 10.32 - 1/2 UNF
 - 1/4 - 1/2 UNC
- From £8.00 £9.60



Escort Mk2 Rubber parts

Bonnet bump stop	pair £5.90	£7.08
Bonnet rail bump stop, v4	£9.90	£11.88
Bonnet bump stop, centre	£4.90	£5.88
Wiring loom grommet	£6.90	£8.28
Bonnet release grommet	£4.90	£5.88
Steering column grommet	£6.90	£8.28
Handbrake back plate boot	pair £6.90	£8.28
Speedo cable grommet	£4.90	£5.88
Throttle pedal pad	£4.90	£5.88
Brake & clutch pedal pad	pair £7.80	£9.36
Complete set, 16 pieces	£59.50	£71.40

Aliant Lithium racing batteries

50% weight saving
over lead acid

Aliant v4, 9.2 Ah	£215.00	£258.00
Aliant x6, 13.8 Ah	£465.40	£558.48
Aliant x8 18.4 Ah	£506.40	£703.68
Super fast charger	£49.50	£59.40



NEW!
2015



Fuel filler cap assembly

Suits 51 or 57mm hose, includes Ring, gasket & keys	£49.50	£59.40
Restrictor (Unleaded only)	£9.90	£11.88

Spotlamps

Maxtel 8" drive light	pair £49.00	£58.80
'Oscar' pattern lamp	pair £79.00	£94.80
'Oscar' genuine	each £89.50	£107.40
'Super Oscar' pattern lamp	pair £89.00	£106.80
'Super Oscar' genuine	each £99.50	£119.40



NEW!
2015

Fuel pumps

Budget, electronic, 18gph	£9.32	£11.18
WCP, electronic, 18gph	£19.00	£22.80
Facet, electronic, 18gph	£30.00	£36.00
Budget, interrupter, 20gph	£12.52	£15.02
WCP, interrupter, 20gph	£29.00	£34.80
Facet, siver top, 25gph	£47.00	£56.40
Budget, interrupter, 38gph	£14.30	£17.16
WCP, interrupter, 38gph	£29.00	£34.80
Facet, red top, 38gph	£51.50	£61.80



NEW!
2015

RMD - Anlu Pressure washer

- 135 bar pressure
 - 5.3 litres per minute
 - 1600 watts power
 - Weight 9kg
 - Gun with adjustable nozzle
 - GS, CE and TUV certified
- £49.50 £59.40



NEW!
2015

Jacks & stands

Trolley jack, lightweight, 2.25 ton	£41.25	£49.50
Trolley jack, budget, 3 ton	£39.50	£47.40
Trolley jack, Pro-race, 2 ton	£141.25	£169.50
Trolley jack, H/D, low profile, 2 ton	£149.50	£179.40
Trolley jack, H/D, low profile, 3 ton	£229.50	£275.40
Asle stands, light, Pro-race, 3 ton (Pair)	£24.58	£29.50
Asle stands, H/D, dual lock, 3 ton (Pair)	£19.50	£23.40
1 ton scissor jack	£14.50	£17.40
Cross beam adaptor	£32.92	£39.50

NEW!
2015

Tool boxes & cabinets



Trolley tool box (as illustrated)	£82.92	£99.50
3 in 1 Tool box set (as illustrated)	£49.50	£59.40
7 Tray Pro tool cabinet (as illustrated)	£239.50	£287.40

2kw Generator

- Super quiet - 52db
 - 19.0kg
 - 20 hours run on Eco
 - Honda type quality
 - Stabilised sine wave output
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- £331.67 £398.00



NEW!
2015

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Skate, 12" hydraulic lift	Each £49.58	£59.50
Dolly, 450kg capacity	Pair £39.50	£47.40



NEW!
2015

Test equipment

Cylinder leak detector	£33.90	£40.68
Fuel injection pressure test	£34.40	£29.28
Diesel engine compression test	£34.90	£41.88
Brake bleed test, vacuum pump	£32.50	£39.00



NEW!
2015

Special garage tools

Timing locking set, 19pcs	£21.90	£26.28
Oil filter removal, 16pcs	£23.50	£28.20
Chain breaker & riveter	£14.96	£17.95
Brake piston wind back	£23.22	£27.86
Clutch alignment kit, 17pcs	£14.90	£17.88
Piston ring compressor	£4.55	£5.46
Puller kit, 46pcs	£15.90	£19.08
Bearing race & seal driver, 10pcs	£29.50	£35.40
Drain plug repair kit, 96pcs	£33.50	£40.20



Blackline 170w mini grinder



Mini grinder, tool only	£23.90	£28.68
Mini grinder & 130 pcs rotary accessory set	£33.90	£40.68

NEW!
2015

Special sockets

Spark plug socket set, 3pcs	£3.72	£4.46
1/2" wheel nut socket set, 3pcs	£14.52	£17.42
Magnetic bits sockets, 3pcs	£5.98	£7.18
1/2" crowfoot, oxygen sensor - 22mm	£3.90	£4.78
3/8" crowfoot, oxygen sensor - 20mm	£3.84	£4.61
3/8" oxygen sensor socket - 8mm	£3.66	£4.39
3/8" oxygen sensor socket - 22mm	£3.66	£4.39
Impact adaptor, 1/4 - 3/8 - 1/2 - 3/4, 6pcs	£16.46	£19.75
1/2" VW impact socket set, 6pcs	£14.85	£17.82



Servicing equipment

Ramp, chock & light set	£57.92	£69.50
Tyre saver - park mat	Pair £12.42	£14.90
Anti-skid track	£29.50	£35.40
Air pump - dual cylinder	£29.50	£35.40
30 LED work light	£16.25	£19.50
120 LED underbonnet light	£39.50	£47.40
Car creeper, lightweight	£15.90	£19.08
Foot pump - dual cylinder	£14.90	£17.88
Tyre carrier - (4) tyres	£24.92	£29.90



NEW!
2015

Garage equipment

200kgs electric hoist	£99.90	£83.88
500kgs electric hoist	£89.90	£107.88
Engine crane, 1 ton, foldable	£129.50	£155.40
750lbs engine stand	£41.25	£49.50
1500lbs engine stand, foldable	£69.50	£83.40
Engine frame, floor stand, pair	£49.50	£59.40
Creeper seat, pneumatic	£23.50	£28.20
Parts washer	£49.50	£59.40



Blackline professional tools

1/4 socket set, 48pcs	£23.64	£28.37
1/4 + 1/2 socket set, 72pcs	£47.72	£57.26
Service barge tool kit, 99pcs	£68.72	£82.46



NEW!
2015

Welcome



Kit car journalist for over 15 years. Built a Sylva Riot and raced a Tiger Avon for several seasons. Has run numerous kit cars as daily drivers over the years.

THE CKC TEAM

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There's a magazine shop in Brighton called, imaginatively enough, MagazineBrighton that specialises in the kind of ultra-specialist titles that you won't find in WHSmith. The magazine you're holding in your hand right now would be considered far too mainstream to appear on its shelves; instead, it stocks titles that are printed in very small numbers by very small independent publishers, but which command high cover prices – we're talking as much as £15 for a single edition.

Why am I telling you this? Because publishing is just one area where products made for a very specific market has emerged, and where people are willing to pay a premium for something that's rare, special and made precisely for people like them. Name just about any product you can think of and there will be a less well-known, more bespoke boutique offering of the same that commands a greater value. In ever greater numbers, people are turning their backs on Tesco in favour of the local butcher and the number of micro breweries increases all the time.

And kit car manufacturers are the automotive parallel to this movement. The days of building a kit car because it's a cheaper way to get into a sports car are long gone. Today, you build (or buy) a kit car because it's not homogenised in the way a mainstream, globally available sports car is. In a world where a Fiat 124 Spider and Mazda MX-5 are really the same car, so a truly individual kit-form offering takes on greater value. Like the Fiat, the


Healy Enigma (as driven elsewhere in the issue) shares common ground with an MX-5. Unlike the Fiat, you can specify it to your own taste to the *nth* degree and be pretty certain that you'll rarely see another in your local supermarket car park. Now that has to be better value than a £15 magazine.

It's possibly a bit hackneyed to say that we don't just write about kit cars but own them too, but the fact remains that you couldn't do this job without loving kit cars. Every single writer on this magazine owns at least one kit car, and some of them are even on the road and working!

With that in mind, we created the 18-page supplement tagged to the back of this issue. Because there's so much more to kit car ownership than building and driving – there's the constant potential for personalisation, upgrade and adventure, and that's something you can easily forget if your build has ground to a halt or your car has been off the road for some time.

If that rings true for you, why not make 2016 the year that you grasp the nettle and make the most of kit car ownership? It makes for a far better new year's resolution than the usual catalogue of abstinence that will be forgotten by mid-January. And those of us in the CKC office whose cars are off the road will join you! Have a great Christmas and start making kit car plans for the season ahead.

Adam Wilkins, Editor

 @AdamWilkins_



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Pick up the February 2016 issue Friday 8 January

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DNA goes old school: Classic California revealed

A while back, we ran a story on DNA Automotive's new service offering its mould-making skills to anyone who had an idea that they wanted to turn into reality. David Turrici responded, and went to the firm with his plans for a BMW Z3 based Ferrari 250 California replica. This is the result – and it's going into production as a DNA model.

It marks a new direction for DNA in offering a classic replica alongside its modern supercar recreations. "I like older cars," says DNA's Brian Hale, "and they're great to replicate because they don't go out of fashion!"

The photos here show the buck from which the production moulds will be taken. In typical DNA fashion, it looks thoroughly developed and finished to a very high standard. It's also said to be a very simple build. Unlike other Z3 bodykits on the market, the engine cover is a conventional bonnet rather than a flip front.

The £5950 kit price makes this the entry-level offering in the DNA range, but there's no drop in quality – the lower price



is the consequence of fewer components. That will buy everything needed to convert a Z3 and get it ready for paint. Options on top of that include wheels, additional accessories (grilles,

windscreen surround) and lighting. The latter are Mini at the front and MGB at the back, and therefore readily available.

Interior upgrades are also to follow, and should be ready in

time for the car's debut at May's Stoneleigh show. Given DNA's track record, we're looking forward to seeing this one. Oh, and naturally the first one will be red.

www.dnaautomotive.com

Westfield adopts innovative rotary engine

Westfield Sportscars is working with Advanced Innovative Engineering on an adventurous new engine option for its SEi model.

AIE has designed and developed the rotary engine below – and, yes, that is all of it! It's about the size of a briefcase, weighs just 28kg and produces

120bhp. Smaller versions still – with lower power outputs are also available – and are designed to work as range extenders for electric vehicles. Westfield is the first company to use one of AIE's rotary engines as the sole means of powering a vehicle.

And with 120bhp, and such light weight, it's more than capable of delivering acceptable performance.

The decision to adopt the technology is driven by forthcoming regulations to reduce vehicle weights – something that Westfield needs to abide by with its type approved models. Given that the SEi is already very light, it will require significant measures to meet with percentage reductions in weight that are



required. This engine is a big step in the right direction.

How popular the engine proves in a market where the weight saving is not necessary will no doubt depend on its cost, fuel consumption and its driving characteristics. Until we have those answers, we must applaud Westfield for its consistently forward-looking approach to specialist sports car manufacture.

www.westfield-sportscars.co.uk
www.aieuk.com





FACT

Initially intended to be a one-off, DNA's 250 California replica is now going into production. It's DNA's first classic replica.



Raptor: a re-imagining of the MK Indy

The Scottish Kit Car Centre has been quietly offering its Seven-inspired Raptor since 2011 and has supplied 11 kits – the first four of which went out of the door before the build of the first car was completed.

If it looks familiar, that's because the Raptor is based on the MK Indy. The Scottish Kit Car Centre sources the base kit from MK before making its alterations. These include a few chassis modifications, but mainly centre on eliminating the Ford Sierra parts in favour of fabricated items.

Most of the cars built to date have been fitted with motorcycle engines, the Suzuki Hayabusa and Yamaha R1 proving particularly popular. In addition, there have been a couple of Ford Zetecs in the mix. To prove that the Scottish Kit Car Centre is happy to go bespoke, one customer has fitted a Nissan Skyline straight

six. Future developments include bespoke bodywork for the Raptor to give it an identity of its own.

The company also works on other makes of kit car, with everything up to a Lamborghini Countach in the workshop at the moment. The firm is also working on its own Cobra replica, which unusually is based on a Porsche 944 donor, which also opens up the option of a 968 base. Watch this space.



We'll be driving the new Raptor demonstrator as soon as it's registered for the road.
www.scottishkitcarcentre.com



Dax Cars relocates...

Cobra replica manufacturer Dax Cars has recently relocated to new premises just the other side of the M11 to the company's old home. The new contact details for the company are as follows... Dax Cars, Unit 1 New House Farm, Vicarage Lane East, North Weald, Essex CM16 6AP. T: 01992 523788. E: post@daxcars.co.uk W: www.daxcars.co.uk



...RoadRunner moves, too

RoadRunner Racing is another kit car company that has been on the move. The new address is: Units 1&2 Stonepit Road, Stonepit Lane, South Cave, East Yorkshire HU15 2BZ. W: www.roadrunnerracing.net



EDT wins 'green' award

EDT Automotive has won a Green Apple Environment Award for its work in reducing vehicle emissions. We underwent the company's engine treatment with our Bertini GT25 project car earlier this year, which helps to improve the fuel economy of older engines as well as reducing their emissions. W: www.edtautomotive.com



DJC V-Storm correction

In our feature on turbocharging your kit car last month, we wrongly stated that former SDR agent Scooby Bits remains a distributor for new owner of the project, DJC Kit Cars. This is incorrect, and the only place to buy a V-Storm kit is from DJC itself. W: www.djckitcars.co.uk



Enigma impresses

It is fascinating to see how the Healy Enigma has flown in the face of all current kit car thinking and is clearly going from strength to strength. Wilkins has returned from his drive of the latest car (read the full review on page 18) and has driven all previous iterations of the Enigma... and it just gets better and better. By all accounts it's now a viable alternative to anything offered from the production car world. Blimey.

Perceived wisdom would suggest that the Enigma is a kit car at odds with all current thinking. Where others are making cars ever simpler, with virtually no bodywork and certainly not anything as complicated as doors or a fully trimmed interior, Healy has launched almost certainly the most adventurous and complex kit car we've seen in decades. Forget thoughts of a bodykit... this is a traditional kit car format with fabricated chassis and all new fibreglass bodywork.

And then it relocates production from the UK out to Latvia... and the quality continues to climb, not decline. I managed to have a close look at the car Adam drove while it was on Healy's stand at the recent NEC Classic (report in the next issue) and I cannot re-iterate how extraordinarily impressive it is. The doors shut with a production car thunk and the interior is superbly equipped and finished... as is the engine bay and boot. Of course, the real acid test is whether the company is selling any... and from what we hear it's very busy indeed. Who'd have guessed it? Not me, but I couldn't be happier to be proved wrong.

Ian Stent

ian@performancepublishing.co.uk

Boat-tail progress

Development of the forthcoming boat-tail model from Vincent, also known as Dwornik Engineering, continues. Andy Westgate of Westgate Composites, who is carrying out manufacture of the bodywork tooling, has sent us this recent photo. Here's the latest from him...

"Both myself and Toni [Dwornik]

have been fitting the build in-between other paying work. Toni is busy building up his business with classic car restorations and I've been flat this year with kit cars. I'm now at a stage that I'm going to start moulding the tub. The buck has been polished ready for the release wax.

www.westgatecomposites.com



From the ads: Royale Sabre



This Royale Sabre is priced at a strong £17,500 on the Car and Classic site. The current owner has had it for 18 months, and is selling because he already has a fleet of six other cars.

It looks particularly clean in the photos, and the vendor claims it's the best he's seen. We'd certainly say it's a shoo-in for that claim, although sadly there is nothing in the advert to show the interior (which is said to be just as good as the exterior...) or engine bay. The latter plays host to a 2.0-litre Ford Pinto engine.

It has covered 23,000 miles and is currently MoT'd and taxed, and used regularly. Other than that, there's not much information to go on. We don't even know when it was built.

We'd suggest that the asking price is particularly ambitious, but it could well be a car that the right buyer falls in love with and has to have. Time will tell...

Scamping on

It's a relatively little known fact that Scamp Motor Company founder Andrew Maclean has never stopped producing the Mini based utility vehicle. Bodies and chassis are still available, and around two per year are produced more as a hobby than a business.

Lack of IVA compliance will always limit demand, but they



can be built for off-road use. It's also reassuring for owners of



existing cars that replacement bodies and chassis are available should they be needed.

In other news, the company has bought the rights to, and can produce, the incredible RTV (Rough Terrain Vehicle) in kit form. Originally launched in 1983, it has an A-series engine mounted inline in the back and driveshafts running fore and aft to provide four-wheel-drive. The front and rear sections pivot around a central bearing to give it remarkable go-anywhere ability. No kits have yet been produced, but Andrew has recently begun building a period unstarted kit that was offered to him. We're looking forward to seeing that!

www.scampmotorcompany.co.uk





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Principle has it covered



Founded in 2011, Principal Insurance is a fast growing company having first made its mark in the motorcycle scene – and it's now offering cover to kit car owners.

The company has recently acquired Kendal-based Central Insurance (previously Peart), and the Kendal facility has now become Principal's specialist motor division.

Said the company's Kat Blayden-Byrne: "I've got an excellent and knowledgeable team which is now being backed by the resources and experience offered through Principal in Manchester. Being a specialist division within a specialist group, rather than within a large general brokering business, will allow us to be even more nimble and effective in securing cover that is appropriate and affordable. In short I think we are now better placed than ever to serve and support kit and replica car enthusiasts" www.principalinsurance.co.uk

Aries Motorsport under new ownership

Phil Edwards bought Aries Motorsport from Steve Huckerby in September, and has since been making progress from his Cardiff facility. The company's history began with Stuart Taylor Motorsport off the back of the Locost boom at the turn of the millennium.

Development focus has been on incorporating more CAD elements into the car, as well as improving jig accuracy. Both car and bike engined models are available, with an RR spec track focused model in the pipeline. The Locost 'book' chassis also remains available, and all chassis and bodywork are made in-house.

As well as supplying kits, modular packages and turnkey cars, Aries can also carry out IVA tests and general build and modification work on all makes of kit car.

Aries Motorsport hasn't had a very high profile in recent years,

but that looks set to change with the fresh enthusiasm of the new owner.

The company has a road legal race car as a demonstrator, which will compete in the Magnificent Sevens series throughout 2016, as well as any 750 Motor Club Sports Specials fixtures that don't clash. Beyond

that, other chances to see the car will be at January's Autosport International show and the Stoneleigh kit car show in May. The company is also going to organise trips to the Nürburgring and Le Mans 24-hour races, which will be open to owners to join in with.

www.ariesmotorsport.com



Blaze RR comes home

Following a spell under the custodianship of Mark Grimwood's MBG Sports Cars, the Blaze RR project has returned to John Hewat at Blaze Motorsport.

Mark couldn't dedicate the necessary time to market the car, and has now decided to focus instead on his day job. While the project returns to Blaze Motorsport, he is retaining the demonstrator as part of the deal as his own private car. However, if it's required

for demonstrator duties it is available.

Kits also remain available, as does the more basic body conversion package for the MGF. www.blaze-bml.co.uk



Saturn panels return

Vmax Composites is a new company that has taken on the ex-Saturn Sports Cars body moulds for the Haynes Roadster.

Dave Williams has a background in composite manufacture, and had tried to buy the moulds several years ago, before they passed to NTS and then Gillham. When the chance arose to buy them in autumn 2015, he sold his part-built Haynes Roadster to finance the deal.

The Teeside based company

has released prices. A six-piece body is priced at £550, or you can buy components individually. Typical examples of prices include £155 for a nosecone, £155 for a rear tub and £60 for a dashboard blank.

While the panels obviously have the conventional Haynes Roadster appearance, Vmax plans to offer accessories of its own design, such as the aeroscreen and diffuser, in future.

www.facebook.com/vmaxcomposites



100 issues ago

We first met our now technical editor John Dickens when when we featured his one-off GTM Coupé. With its unique GRP monocoque, the car impressed us enormously. We also brought together three fantastic Lamborghini Countach replicas and featured a very tidy period style Pilgrim Sumo. Meanwhile, Wilkins was still in the midst of building his Sylva Riot.





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www.trikingsportscars.co.uk

Creative Sports Cars

Venom Injection! The Dodge Viper inspired Venom returns as the Venom S based on modern Jaguar donor and with several bodystyles. See the Venom S at www.creativesportscars.com



Unit 27 Wharf Street, Warrington, WA1 2HT
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www.creativesportscars.com

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www.toyboxcars.co.uk

Scottish KKC Run Out

2015 marked the 30th anniversary of the Scottish Kit Car Club, an impressive milestone for any voluntary organisation. Around 70 members are scattered across the country which can make gatherings tricky, but it's well supported and has clearly stood the test of time.

To celebrate the anniversary, a club gathering was organised for September and an impressive 26 kits gathered at a services between Glasgow and Carlisle. There then followed a carefully chosen route down through Moffat, then into the Tweedsmuir hills – a single track road with a very good road surface. The group passed the stunning Talla and Meggat reservoirs and rejoined the main road at St Mary's loch.

Then it was back to Moffat before a short hop over the other side of the M74 to The Old Stables Inn, run by club member Peter Dutton. A barbecue was laid on for 70 people, with judging and prizes for various cars awarded later in the day. A great effort by all involved in organising it and proof, if it were needed, that the club remains in good health.

www.scottishkitcarclub.co.uk



Caterham 5.5-hour show build

The recent Regent Street Motor Show in London witnessed Caterham Cars with an outside display as it attempted to build one of its kits in just five and a half hours. The resulting

videos make good viewing on YouTube (<http://tinyurl.com/pm9zmoy>) or by clicking the play buttons here when viewing in the CKC app.

www.caterhamcars.com



Caterham Cars live at Regent Street Motor Show

Caterham Cars
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Published on Nov 12, 2015

Caterham Cars attempted Regent Street Motor Show, London, England on 31st October 2015, the goal, to build an iconic Caterham Seven live at the show in 5.5 hours.

SHOW MORE

CKC track day – 14 May

The dates for the 2016 CKC/Omex Track Day have now been released and we are already taking bookings via the simple online ordering system on the CKC website (although you are always welcome to phone if you prefer).

Held at Llandow circuit near Cardiff, this is a great day which

is exclusive to kit car drivers. There's a terrific atmosphere in the paddock and lots of fun to be had out on the circuit.

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www.completekitcar.co.uk





GBS on Silverstone F1 circuit

Great British Sports Cars invited existing and potential customers to join it at a recent track day at Silverstone. The company was allocated its own pit garage in the fancy new F1 facilities at the circuit and had a superb day mixing it with all manner of exotic machinery, including a Ferrari LaFerrari!

The company was joined by its Swedish and Stateside dealers, who both enjoyed a rare opportunity to experience the full Grand Prix circuit at Silverstone. By all accounts a



fantastic day was had by all, and every car performed well. www.greatbritishsportscars.co.uk



Scamp week away

Scamp diehard and club president, Chris Westgate, organised a full five days of potential entertainment for club members based from a campsite near Lydd in Kent. A key attraction was that the campsite was owned by Glynn Swift, Mini tuning expert and the man behind Swiftune.

With the Scamp's use of Mini components, it was no surprise that support for the event was strong! Club members could come and go as they pleased, with various planned outings over the duration. A key attraction for many was a guided tour of the Swiftune facility, looking over race tuned

A-series engines with a build cost approaching £25,000!

With the location in Kent, another day was spent hopping over to France and touring down to Boulogne. Another day involved a local run out to Rye with fish and chips by the sea. Then there was a day trip to the new Battle of Britain memorial near Folkestone, and another day spent driving to and then enjoying the Romney, Hythe and Dymchurch $\frac{1}{3}$ scale railway. Finally a day trip to the excellent Chatham Dockyards before a last night's camping and heading home.

With such a successful gathering, expectations are high



Other news...

Credit where credit's due – Really enjoyed the pictures we printed in the last issue of Colin Atwell's wedding and his very understanding new wife, Rachel. But we forgot to mention the photographer who took the pictures. Paul Tutton was the man behind the lens and if you are in the Bristol area he may be able to do pictures for you (whether track day focused or anything else). Contact him by email at pics@paultutton.com.



Prizes – The Sussex Westfield Sports Car Club members were delighted to walk away with the Best Club Stand at the recent Classic Restoration Show, with the Bristol Kit Car Club awarded second prize and the DNA Owners' Club a well deserved third place. Well done to all of them and a great end to what has proved to be a very popular new event on the show calendar. Roll on 2016. See page 26 for more info.



for 2016's event! If you fancy finding out more about Scamps, head for the owners' club website. www.scampownersclub.org.uk



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2016 Events

There's plenty to entertain you and your kit car. Here's our diary of the events over the coming 12 months that have caught our eye. If you know more, tell us and we'll get the word out.



JANUARY

14th-17th

Performance Car Show

NEC, Birmingham

Satnav: B40 1NT

T: 0844 581 1419

W: www.performancecarshow.com

Part of Autosport International, the Performance Car Show is looking like must see viewing for the kit car enthusiast. Come and find us as we promote the 2016 Track Day Directory.

MARCH

19th/20th

Goodwood 74th Members Meeting

Goodwood Race Circuit,

West Sussex

Satnav: PO18 0PX

T: 01243 755055

W: www.goodwood.co.uk

Previously members-only event now open to the public.

Easter Monday 28th

Motorfest

Weston Park,

Nr Shifnal,

Shropshire

Satnav: TF11 8LE

T: 01527 831726

W: www.classicmotorshows.co.uk

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MAY

1st/2nd

The National Kit Car Motor Show

Stoneleigh Park,

Warwickshire

Grosvenor Shows

Satnav: CV8 2LZ

T: 01406 372600

W: www.grosvenorshows.co.uk

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Saturday 14th

CKC/Omex Track Day

Llandow Circuit,

Wales

Satnav: CF71 7PB

T: 01823 617908

E: ian@performancepublishing.co.uk

W: www.completekitcar.co.uk

Join us at Llandow Circuit for a brilliant track day, exclusively for kit cars. Beginners welcome at this very friendly day. Contact us to register your interest.

Monday 30th

Motor Show

Ragley Hall,

Alcester,

Warwickshire

Satnav: B45 5NL

T: 01527 831726

W: www.classicmotorshows.co.uk

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JUNE

Sunday 5th

London to Brighton

Kit and Sports Car Run

Classic Motor Events

T: 01527 831726

W: www.classicmotorevents.co.uk

Join us on this great event.

16th-20th

Le Mans Tour

Classic Car Tours

T: 01355 260422

W: www.classic-car-tours.com

From £149 per person.

18th/19th

Le Mans 24-Hour

France

An annual pilgrimage for kit car owners.

23rd-26th

Goodwood Festival of Speed

Goodwood House,

West Sussex.

Satnav: PO18 0PX

T: 01243 755055

W: www.goodwood.co.uk/fos

An essential event for the petrolhead – lots of iconic cars to see.

JULY

7th-11th

Le Mans Classic Tour

Classic Car Tours

T: 01355 260422

W: www.classic-car-tours.com

From £179 per person.

8th-10th

Le Mans Classic

France

10th-12th

Cholmondeley Pageant Of Power

Malpas,

Cheshire

Satnav: SY14 8AH

T: 01829 772432

W: www.cpop.co.uk

An event which is gaining in popularity.

Sunday 24th

Kent's Kit, Custom And American Car Show

Aylesford Priory, Kent.

Satnav: ME20 7BX

T: 01732 840787

W: www.kentskitcustomandamericancarshow.co.uk

Now in its third year, here's a growing event with an interesting mix of cars.

AUGUST

Monday 29th

Knebworth Classic Motor Show

Knebworth House, Nr Stevenage,

Hertfordshire

Satnav: SG1 2AX

T: 01527 831726

W: www.classicmotorshows.co.uk

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SEPTEMBER

9th-11th

Goodwood Revival

Goodwood Race Circuit,

West Sussex

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Gary Axon

"Ilan sent a note a few months ago, casually asking myself, fellow columnist Richard Heseltine and editor Wilkins for our votes for the Top 10 cars that should have been replicated... Oh, and please can he have our nominations later that same day! I replied immediately saying I'll come up with a suitable list, but it might need more than a couple of hours of consideration.

In the end, I took about four days to come up with my definitive list, having changed my mind at least a dozen times"



In 1982 Gary Axon penned his first published words for *Alternative Cars* magazine, precipitating what has become a lifelong obsession with the more obscure elements within the automotive world. Today he's a leading light in helping to assemble the shortlist of invited cars at motoring events, such as the Goodwood Festival of Speed, Revival and the Concours of Elegance.

Receiving an email from CKC's publisher Stent is such a rare and special occurrence that I usually drop whatever I'm doing and jump to attention to read his prose. When the subject of such an email is 'Top 10 Replicas' then not only do I jump, but I salute as well.

Ilan sent such a note a few months ago, casually asking myself, fellow columnist Richard Heseltine and editor Wilkins for our votes for the Top 10 cars that should have been replicated, but are not currently available (at least in the UK). Oh, and please can he have our nominations later that same day!

I replied immediately saying I'll come up with a suitable list, but it might need more than a couple of hours of consideration. In the end, I took about four days to come up with my definitive list, having changed my mind at least a dozen times, and also restricting my final selection to cars that realistically could be turned into replicas – thus ruling out various pre-war Voisins and the glorious, but far too straight-edged-for-GRP, 1971 Fiat 130 Coupé. Our collective Top 10 thoughts subsequently appeared in the December 2015 edition of CKC (still available in print or via the CKC app, just in case you missed it), with Ilan selecting the 'ultimate' Top 10 from the 40 cars that we suggested.

My initial choice was partially compromised by Stent sharing his early thoughts with us, him choosing the early-'50s Maserati A6 GCS Berlinetta that I would have also opted for (me favouring the Zagato coachwork over the Pininfarina body that Ilan selected). Ilan didn't share Richard and Adam's final 10 with me, which is just as well as my choice might have been further curtailed. However, already knowing Hezza and Wilkins' tastes quite well, I figured that Richard would probably opt for a Zagato Lancia Hyena and pre-war Alfa and TZ (which he did), but I didn't expect his Elva-BMW GT160, which had totally slipped my mind, much to my annoyance. That fact that he also chose two cars from my selection (the Alfa 33 Stadale and Mercedes C111) was a surprise

though. As for Adam, his Alpine-Renault A110 and Talbot-Lago T150 were inspired choices, but I did give him some grief for selecting the 911 GT1. Sorry Adam, but it wouldn't do if we all liked the same things...

With a couple of exceptions, replicas of most of the final 40 cars selected still don't exist, which was the point of Ilan's email, although elsewhere in the world there have been replicas of a few of the cars listed. These include Stent's Porsche 917 (replicas exist in South Africa, Australia, the USA, Netherlands, and now the UK too), plus Adam's Alpine A110 (the short-lived Darrian-built Monte Carlo A220 in the noughties, plus copies currently produced in Spain, Brazil and the USA), and his Bentley Blue Train (yours for a very hefty fee with a British-built recreation).

Being entirely selfish, my personal top choice of all of the selected replicas would be the stunning CD Peugeot 204. Despite editor Wilkins surmising that it would be unlikely to have a queue of people waiting for a recreation of this extreme Le Mans racer, I for one would buy one, and I know of at least five fellow enthusiasts that would sacrifice their hard-earned for one of these as well, potentially making this one of the better-selling kit cars compared to many past efforts! With a simple spaceframe chassis, a mid-mounted 1.9-litre Peugeot 205 GTi engine, and a windscreen adapted from a Stratos replica, job done.

I also listed the innovative Chrysler CCV concept (of which six were made), as I liked the idea of forcing the CKC team to use a photo of it in the magazine! Sadly my cunning plan failed. As for my other choices though, all still stands, although if permitted I have now changed my mind on one car, as I would like to 'officially' substitute the 1996 Alfa Romeo Nuvola concept from my Top 10 (beautiful though it is) and replace it with the one-off 1953 Charbonneau-designed Salmson 2300 S Cabriolet, which will be easy to replicate, as the car already has a GRP body. Oh, we can but dream hey... ■

NEXT MONTH



Richard Heseltine

Respected classic car journalist Richard Heseltine has been a major player at *Classic & Sports Car* and *Motor Sport* magazine before becoming a sought after freelance journalist. But he also happens to be one of the most knowledgeable kit car boffins you'll ever come across.



Pic: Alfian Beem used under Creative Commons license

Raising the ROOF



Healy Designs has been working hard on its Mk3 Enigma since we drove the prototype earlier this year. Now we try the latest demonstrator, complete with electric folding hard-top.

Words and pictures: Adam Wilkins

Settle into the quilted leather seats, ignition on. Switch on the heated seats and then push the button on the centre console with the 'roof down' icon. Some electric motors whirl quietly into action and, 15 seconds later, the solid roof has folded itself into the back of the car. There are worse cars to be testing on a brisk November day than the latest incarnation of the Healy Enigma.

The folding hard-top is the undoubted party piece of the latest Enigma to arrive from Healy Designs' manufacturing facility in Latvia, but it is by no means the only development to the Mk3 Mazda MX-5 based version of the car. In fact, there are no fewer than 54 improvements to this car over the blue prototype we drove earlier this year – which itself was a massive step on from Mk1 MX-5 based car that made its debut at Stoneleigh just 18 short months ago.

"The moment we think we've cracked it is the moment we start going backwards," says Healy's Mick Snell. "Every turnkey car goes through a 350-point pre-delivery inspection before it goes out to the customer, and we go through each car with a fine-tooth comb to see what improvements can be made."





Quilted leather trim gives the Enigma an upmarket feel; 2.0-litre four-cylinder engine from Mk3 Mazda MX-5 produces 158bhp.



Hard roof looks the part either raised or lowered. Sequence above right takes about 15 seconds to complete. It's a neat trick!



And they also listen to potential customers to iron out any imperfections. At the recent NEC classic car show, one lady was weighing up whether to sell her Audi TT to make way for an Enigma. Her only gripe? That the join in the steering wheel stitching was lined up where the driver's index fingers rest. That will be relocated on future cars. Such are the high production values of the Enigma that it's gaining interest from owners of mainstream – and much less individual – sports cars. Another potential customer marvelled at the fact the Enigma's roof retracts faster than that of his own Mercedes-Benz SLK. This is not a car that's judged by the usual kit car metrics.

And so it proves on the move. This is a car that you could easily live with day in, day out, for long trips and the supermarket run. Because the hard-top car isn't yet registered, our drive was restricted to private land, but we were able to work through the gears and get the car up to decent speed. That wasn't the limit





of the day's driving, though. Another Mk3 car was available for a proper drive on the road. Like the car pictured, it featured all the latest developments with the exception of the solid roof.

The soft-top stayed up and the heated seats switched on for our road miles, the Enigma playing its 'civilised' hand to a tee. Wind noise is minimal (and even less in the hard-top car) and the stock MX-5 interior means that the ergonomics and comfort are spot-on. Healy's retrim gives the ambience a lift, and the company is currently working on its own bespoke centre console to distance itself further from the donor.

The modern 2.0-litre engine from the Mk3 is light years ahead of the old twin-cam units found in Mk1 and Mk2 MX-5s. As well as being more powerful (158bhp in the test car), it's hugely more refined. It's quiet most of the time, with a suitably sporting rasp when you press on. With the remap in the demonstrator, there's a notable step up in power at around 3500rpm, too.

The gearchange is slick in that typical MX-5 fashion, and is a 6-speed item in the late model donor car. Everything feels fresh and new, which isn't surprising when you learn that Healy never buys donor cars with more than 20,000 miles on the

clock for its turnkey cars. The company is currently working on sourcing a supply of brand new engines for those customers who want an all-new car.

Even with the slightly used running gear of the demonstrator, it feels like a new car. The basic structure of the car, a square-tube spaceframe with steel floors and bulkheads, feels utterly rigid and you won't detect any rattles or scuttle shake, even on rough country lanes. It's a solid platform on which the suspension can work brilliantly; it rides well and is utterly composed. Long distance touring would be easy.

Lots is carried over from the MX-5



Tech spec

Engine as tested: 2.0-litre four-cylinder Mazda MX-5 engine. 158bhp.

Engine options: 1.8 or 2.0-litre four-cylinder Mazda MX-5 Mk3.

Chassis: Spaceframe made from square section steel, steel bulkheads.

Bodywork: GRP body tub, bonnet and bootlid. GRP door skins over standard Mazda doors.

Suspension: Front – Mazda MX-5 double wishbones.
Rear – Mazda MX-5 double wishbones.

Steering: Mazda MX-5 steering rack and column.

Brakes: Discs all-round.

Kit price: £6750 plus VAT.

Budget build cost: From £16,000.

Contact: Healy Designs, Thetford, Norfolk. T: 07584 087056.
E: healydesignsLtd@aol.com W: www.healydesigns.co.uk

donor, which helps. The windscreen and soft-top are standard Mazda, and they keep wind noise to a minimum. You never have to raise your voice to make conversation, which is something that's untrue of the Mk1 car. The optional hard-top option is also carried over from the MX-5, and is made from GRP rather than the steel you might expect. The weight penalty is

therefore minimal. Oh, and a frequent question from potential customers is whether the folding hard-top encroaches on boot space. It doesn't at all; there's still space for a set of golf clubs.

Given that Healy Designs had no control over the shape of the roof, it blends into the car's styling remarkably well. The company's Martin Williamson spent a week at the Latvian facility fine-tuning the styling of the rear deck to ensure it looked right. In the old English white of the demo (a colour from the Mini colour chart), it looks classy. We'd never tire of raising and lowering it – a first for a conventional kit car. For all its MX-5 DNA, the Enigma feels like a special car in its own right.

For self-build cars, the hard-top option adds little to the cost of a donor, but would require painting. For turnkey Enigmas, the hard-top commands a premium of around £1200.

That means that a self-built Healy hard-top could be completed for around £16,000, while turnkey models are priced from around £26,200. The move to have

the kits manufactured in Latvia may have been brave, but it's one that has paid off. Those prices couldn't be matched with UK manufacture, and yet the quality of the work is superb.

It's a long time since there has been a kit car to take on mainstream sports cars on their own terms when it comes to practicality and refinement. In recent years, that has been the preserve of simpler bodykit projects. Yet the Healy Enigma is a car that does just that – and requires no excuses to be made for it. Healy's goal from the very beginning was to offer a fully-built car 'outside' of the kit car market, and the Enigma is a car that has very broad appeal.

The rapid development since the Mk1's debut at Stoneleigh 2013 has been great to watch and the latest incarnation is very impressive indeed. And it's not going to stop there. The next demonstrator is almost on its way to Healy's Norfolk base, and this one will feature the superb 4.0-litre Lexus V8. I feel a return visit may be in order very soon. ■



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DAX

Kits give a victory salute at Goodwood

Vee-Power Sunday is always one of the more popular themes for the Goodwood Breakfast Club, and so it proved for October's sunny gathering.

It's also always a good one for spotting kit cars amongst more conventional machinery, and it seemed that for every Mercedes-Benz or Jaguar there was a kit-form vee car. Good variety, too, with everything from a Moto Guzzi engined Pemberton to several Ultimas.

There was also a couple of rare alternative cars that exist in the gap between the kit car and mainstream automotive markets. How about the first public outing

(as far as we know) for the Spectre R45 prototype? It has been in Southways Automotive's workshop undergoing long-term work, and is now IVA'd and registered. Privately owned, it's still finished in the camouflage colour scheme it had when it was still a production hopeful.

There was also a very rare Invicta S3 lined up in the circuit. You don't see too many of those.

Oh, and how about a McLaren F1 GTR? Only at Goodwood would you see such a varied collection on what would otherwise be an ordinary autumnal Sunday morning.

www.goodwood.com/grr



Weird bonnet on an MGB!



Several Ultimas on show.



McLaren F1 GTR an incredible sight.



Spectre prototype now privately owned and still sporting camouflage colour scheme.

Words and pictures: Adam Wilkins



Invicta S3 a rarity.



Zeemax kit adds muscle to Jaguar XK8.



Chichester college gathering

Having enjoyed Southern Classics' August event (December 2015 issue), we decided to visit the Chichester event, and were blown away by the turnout and great diverse mix of cars. All manner of classics, kit and modern performance car were present, with turnout much helped by the good weather.

The event was in one of the Chichester college's car parks, so no muddy fields to negotiate, and also a good collection of traders selling memorabilia, period spares and models/collectors' items. Entry fees were modest for spectators and

exhibitors. Those choosing to sign up to the club on the day could also benefit from 2016 membership and get their entry fee refunded.

It was hard to pick a favourite car on the day as the display was so varied, but an early Piper, a rare AC3000ME and some pretty early TVRs certainly stood out. But so did the Subaru powered beetle with skull high level brake light! Local events such as this seem to be thriving at the moment, and long may it continue. A thoroughly pleasant way to spend a Sunday morning. www.southernclassics.org.uk



Tidy Piper P2.



AC 3000ME.



Crazy Beetle rod.



Triumph based Type 48 Spyder.



Words and pictures: James Horsley



Caterham Seven.



Words and pictures: Ian Stent

Kits meet the classics

The Classic Restoration Show at the Bath and West Showground outside Shepton Mallet in Somerset, doesn't perhaps sound an obvious event for the kit car scene to tag onto. But that's exactly what CKC organised, after visiting the organiser's two previous events there in 2015...

Both the Great Western Autojumble and the Bristol Classic Car Show are also held at the venue and organised by the Mortons Media Group. After Westfield owner Colin Homewood suggested to us last year that the kit car scene could have a presence at the show, we arranged to take one of the smaller halls exclusively for kit car clubs at the recent Classic Restoration Show.

Six clubs took dedicated space in the hall, along with our own Club CKC. This was enough to largely fill the available space and the result was a terrific spread of cars that visitors to

the show enjoyed considerably, being keen to ask questions and engage club members who were with their cars.

With some owners only able to attend on one day, other club members replaced them with different cars on day two and it ensured a fantastic display for the kit car scene.

Elsewhere, the Classic Restoration Show featured hundreds of parts stands, along with classic car clubs and the Charterhouse car auction, the latter with a number of kit cars which ended up selling for what we felt were extraordinarily high prices!

CKC would like to take this opportunity to thank each and every kit car owner who brought their car along and made our hall such a success. You did us proud and we appreciate your support.

If you couldn't join us this time, we look forward to seeing you there in 2016 and building on this year's great success. ■



Great support from the Midas and Mini Marcos Owners' clubs.



Simon Skelding's Madison on Club CKC...



...Bob Fry's one-off also on the CKC stand.



Apple County Kit Cars had different cars on different days.



Pic: Colin Homewood

Gathering of the Dorset chapter of the WSSC!



Speedsters and Spyders OC created enormous interest all weekend.



Oddball Spyder in the auction.



We loved this rat-look pick-up.



Top-chop Mini with wood effect.



Midas Gold parked up outside.



GTM OC stand represented with two Libras.



Stunning display of three different coloured DNA West Coast California replicas.



BKCC raising funds for Go-Inspire!



Magenta rolling chassis created interest.



Malcolm Watts Jaguar V6 powered Westie takes centre stage on club stand.



ALUMINIUM RACING JACKS

BEST SELLER

• Quick lift
• Non-marking nylon wheels
• Rubber contact pad - helps protect vehicle undersides

• steel chassis

MODEL	EXC.VAT	INC.VAT
1.25 tonne	£84.99	£101.99
2 tonne	£149.98	£179.98
2.5 tonne*	£139.98	£167.98

LOW ENTRY ONLY 85MM

Clarke 2 TONNE TROLLEY JACKS

FROM ONLY £19.98 EX.VAT

CTJ2001G

MODEL	TYPE	EXC.VAT	INC.VAT
CTJ2B	DIY	£19.98	£23.98
CTJ2MB	DIY	£24.99	£29.99
CTJ250LP	* Low Profile	£39.98	£47.98
CTJ20LG	Pro Instant	£69.98	£83.98
CTJ2001G	Pro Garage	£74.99	£89.99
CTJ2GLC	Pro Long High Lift	£169.98	£203.98

* CTJ250LP has a 2.25 tonne capacity, has a low entry of only 80mm and includes 2 sockets

Clarke AXLE STANDS

• Ratchet action for quick height adjustment
• Sold in pairs

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MODEL	TONS	MIN/MAX HEIGHT	EXC.VAT	INC.VAT
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CAX-6TBC	6	400-615mm	£29.98	£35.98

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BIG 3" CASTORS

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• Heavy duty steel construction - load rating 500kg per dolly

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Clarke NO GAS/GAS MIG WELDERS

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105EN	30-100	£184.99	£221.99
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160EN	30-150	£259.98	£311.98

Clarke MIG WELDERS

Quality machines from Britain's leading supplier

See online for included accessories

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£215.98 INC.VAT

MODEL	MIN-MAX AMPS	EXC.VAT	INC.VAT
PRO90	24-90	£179.98	£215.98
110E	30-100	£214.99	£257.99
135TE Turbo	30-130	£239.98	£287.98
151TE Turbo	30-150	£269.98	£323.98
165TE Turbo	30-155	£339.00	£406.80
175TECM Turbo	30-170	£399.00	£478.80
205TE Turbo	30-185	£429.00	£514.80

* was £490.80 inc.vat # was £539.98 inc.vat

Clarke 3 TONNE JACKS

QUICK LIFT

JACKS ALSO IN STOCK UP TO 5 TONNE

MODEL	TYPE	SADDLE HEIGHT	EXC.VAT	INC.VAT
CTJ3000QL	Quick Lift	195-520	£44.98	£53.98
CTJ300LG	Pro Instant	145-520	£83.98	£100.79
CTJ3000G	Pro Garage	145-520	£84.98	£101.99

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CR2	2000KG	£26.99	£32.39
CRW25	2500KG	£36.99	£44.39

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6 tonne	£14.99	£17.99
20 tonne	£34.99	£41.99

Clarke CAR CREEPERS

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MODEL	DESCRIPTION	EXC.VAT	INC.VAT
CRC36	Car creeper	£21.99	£26.99
CRC45	With adjustable headrest	£28.99	£34.79
CRC50	Folding car creeper	£44.99	£53.99

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MODEL	MIN/MAX AMPS	EXC.VAT	INC.VAT
MIG 120NG	35/90	£109.98	£131.98
MIG 145	35/135	£149.98	£179.98
MIG 152	40/140	£164.98	£197.98
MIG 180	40/160	£179.98	£215.98
MIG 196	40/180	£199.98	£239.98

Clarke ARC WELDERS

For home user, automotive and industrial applications.

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MODEL	AMPS	EXC.VAT	INC.VAT
EA110	40-100	£49.98	£59.98
EA165	65-160	£64.99	£77.99
115N	30-110	£64.99	£77.99
EA200	60-200	£87.99	£105.99
160N	40-150	£67.99	£81.99
190N	50-185	£94.99	£113.99
190TEN	35-180	£139.98	£167.98
235TEN	40-210	£149.98	£179.98

* was £107.98 inc.vat

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110E	30-100	£214.99	£257.99
135TE Turbo	30-130	£239.98	£287.98
151TE Turbo	30-150	£269.98	£323.98
165TE Turbo	30-155	£339.00	£406.80
175TECM Turbo	30-170	£399.00	£478.80
205TE Turbo	30-185	£429.00	£514.80

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BC100N	15/100	£47.99	£57.99
BC130C	15/120	£61.99	£74.39
BC190	38/180	£89.98	£107.98
BC210C	15/120	£94.99	£113.99
BC410E	35/400	£119.98	£143.98
BC205N	30/200	£169.98	£203.98
BC520N	50/510	£179.98	£215.98
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CON1050B	115	1050w	£27.99	£33.59
B&D CD115	115	710w	£29.98	£35.98
CAG2350B	230	2350w	£42.99	£51.59

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MODEL	DESC.	EXC.VAT	INC.VAT
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CFC1000LR	1 ton long reach	£189.98	£227.98

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Includes SINGLE LOCKABLE DRAWER

Shown fitted with optional 3 drawer unit ONLY £84.99 Ex.VAT £101.99 Inc.VAT

MODEL	DIMS WxDxH (mm)	EXC.VAT	INC.VAT
CWB1000B	1000x650x880	£149.98	£179.98
CWB1500B	1500x650x880	£199.98	£239.98
CWB2000B	2000x650x880	£259.98	£311.98

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CTC900B	9 Dr chest	610x255x380	£64.99	£77.99
CTC500B	5 Dr cabinet	675x335x770	£119.98	£143.98
CTC800B	8 Dr	610x330x1070	£104.99	£125.99
CTC700B	7 Dr cabinet	610x330x875	£129.99	£149.99
CTC1300B	13 Dr chest	620x330x1320	£149.98	£179.98

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Tiger 7/250	2Hp	7	24ltr	£89.98	£107.98
Tiger 11/250	2.5Hp	9.5	24ltr	£119.98	£143.98
Tiger 8/510	2Hp	7.5	50ltr	£129.98	£155.98
Tiger 11/510	2.5Hp	9.5	50ltr	£149.98	£179.98

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* was £1978.80 inc.vat

• Available with/without 7 pce pin, bracket & pressing plate # without kit

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CAT128	1/4" Die Grinder	£19.98	£23.98
CAT131	1/2" Impact Wrench	£59.98	£71.98
CAT132	13Pc 1/2" Impact Wrench Kit	£74.99	£89.99
CAT133	3" Cut Off Tool & 1/4" Die Grinder & 33 piece set	£47.99	£57.59
CAT134	1/2" Reversible Ratchet	£34.99	£41.99
CAT136	6" Dual Action Sander	£34.99	£41.99
CAT137	3/8" Keyless Reversible Drill	£34.99	£41.99
CAT139	150mm Air Hammer inc 4 Chisels	£19.98	£23.98

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The ultimate in tool storage!

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MODEL	DESCRIPTION	DIMS WxDxH (mm)	EXC.VAT	INC.VAT
CBB203B	3 Dr step up	710x315x250	£69.98	£83.98
CBB206B	6 Dr Chest	710x328x365	£99.98	£119.98
CBB209B	9 Dr Chest	710x315x420	£119.98	£143.98
CBB210B	10 Dr Chest	710x315x475	£119.98	£143.98
CBB212B	3 Dr Cabinet	755x470x810	£169.98	£203.98
CBB215B	3 Dr Cabinet	758x468x815	£199.98	£239.98
CBB213B	3 Dr Cabinet	758x418x875	£199.98	£239.98
CBB217B	7 Dr Cabinet	758x468x975	£249.98	£299.98

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• Includes the most popular sockets, spanners, pliers, drivers, wrenches etc

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MODEL	START BOOST	PEAK AMPS	EXC. VAT	INC. VAT
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910	400A	900A	£59.98	£71.98
4000	700A	1500A	£114.99	£137.99
12/24 1000A@12v	2000A@12v		£129.98	£155.98
500A@24v	1000A@24v			

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IG1216	4.9 x 3.7 x 2.6m	£259.90	£310.80
IG1020	6.1 x 3 x 2.4m	£269.90	£322.80
IG1220	6.1 x 3.7 x 2.5m	£299.90	£358.80
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PRO12C was £32.39 inc. VAT

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TYPE	EXC. VAT	INC. VAT
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Honda & Diesel engine models available

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Tiger2600 170/2465	4	£259.98	£311.98	
Tiger3000 200/2900	6.5	£329.98	£395.98	
PLS195	186/2698	6.5	£399.00	£478.80
PLS265	260/3770	13	£599.00	£718.80

Clarke PARTS WASHERS

FROM ONLY **£39.98** EX VAT
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CW1D	45Ltrs	Floor	£99.98	£119.98
CWM20	22.5Ltrs	Floor	£144.99	£173.99
CW40	75Ltrs	Floor	£159.98	£191.98

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IG1000

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Produces pure sine wave & stable power, essential for computers & sensitive equipment
• Max output: IG1000, 1000w Max output: IG2200, 2200w • 4 stroke engine • Super quiet running (only 64dBa at 7m 1/4 load) • Low oil shut down • Ideal for caravanning, and boating etc.

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CES450	450kg	£69.98	£83.98
CES750A	340kg	£79.98	£95.98
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East meets

WEST

When I arrive at the farm that Bill Bourne calls home and work, the gleaming Westfield Mega S2000 that was the subject of the reader's

build story in last month's issue is nosing out of the single garage in which it was built. The 65 registration plate backs up the freshly-built shine of the car: it's brand new. Even those hard-to-reach-and-clean places are bereft of any flecks of dust and the Toyo R888 tyres still have the tell-tale markings that suggest they've barely turned. This is a car whose story is yet to be told.

As you'll know if you read part one last month, Bill is no stranger to kit car building. He has owned several Seven-inspired roadsters before and built one of them – an MK Indy – himself. The theme that has been common amongst all of them is competition use. Bill has been involved in motorsport since the



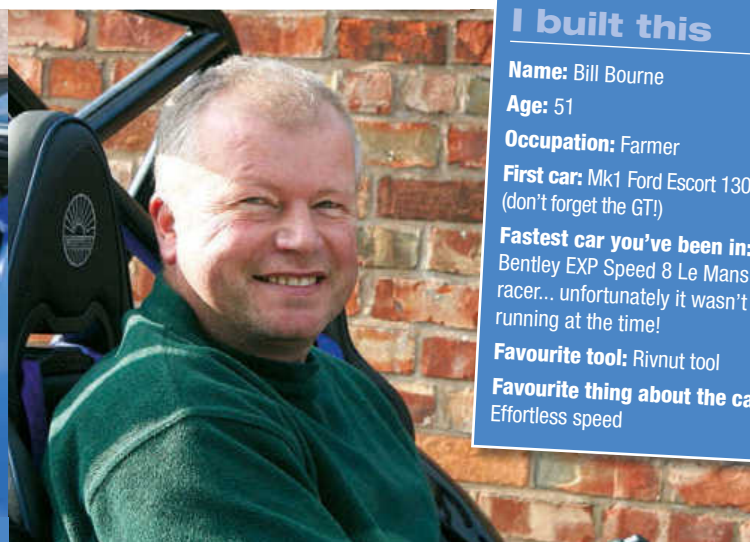
Following last month's build story, we take a closer look at Bill Bourne's Westfield Mega S2000 – the first privately built version of the car we've seen.

Words and pictures: Adam Wilkins





Honda S2000 engine sits well back in the engine bay for the best possible weight distribution.



I built this

Name: Bill Bourne

Age: 51

Occupation: Farmer

First car: Mk1 Ford Escort 1300GT
(don't forget the GT!)

Fastest car you've been in:
Bentley EXP Speed 8 Le Mans
racer... unfortunately it wasn't
running at the time!

Favourite tool: Rivnut tool

Favourite thing about the car:
Effortless speed

mid-1990s, and derives much more enjoyment from hillclimbing than he does road driving. "I'm not really into blatting on the road," he says, which goes some way to explaining why there's under 100 miles showing on the Westfield's odometer

when we visit. It also explains why there's a cross-braced MSA specification roll-over bar on the car, and various performance-related upgrades such as the wide-track front suspension.

For Bill, a big part of the appeal of

the Westfield package is that everything is available off-the-shelf from the manufacturer. It meant that he could pick and choose the specification as the build progressed, safe in the knowledge that everything would fit together with





Westfield's interior trim packages are comprehensive and well finished. Top quality job.



minimal fabrication.

The most obvious option to the casual onlooker is the FW bodywork in place of Westfield's more conventional styling. It only applies to the rear of the Mega S2000 though; because the Honda engine is very tall, it has to use the nosecone and bonnet

from the V8-engined SEiGHT.

Inside the car, things are as minimal as you'd expect of a machine with such focus. Trim is almost entirely absent – although the Westfield bucket seats will provide comfort – and the bare carbon fibre dashboard hosts a digital instrument read-out and a neat row of rocker switches... and not much else. Despite the track bias, Bill is considering adding weather gear to the car for those occasional road miles.

The one thing that didn't come from Westfield was the Honda S2000 engine and gearbox. As soon as Bill found out that it was an option for the Westfield, there was no question of using any other engine and he sourced the parts on eBay, already stripped from a written-off S2000. "It's just brilliant," says Bill. "I'm surprised nobody has used the S2000 as the basis of a body conversion."

The S2000 motor looks the part in the engine bay and, despite being quite a large unit, it looks right in the Westfield. This is primarily because the company redesigned the chassis to suit, altering the bulkhead to sit the engine as far back as possible for optimum weight distribution. The result is that it absolutely fills the engine back at its rearmost part, but it sits completely behind the front axle line. Ahead of the engine, there's lots of fresh air.

When our own Ian Stent drove the 240bhp Mega S2000 in our April 2013 issue (73), he declared it not only the fastest production Westfield we'd ever driven but also the best and as much a benchmark for this generation as the Rover V8 engined SEiGHT was in the 1990s.

Despite all the power, Bill is hungry for more and is considering the addition of a supercharger to make it even quicker up the hillclimb courses. Well... that is assuming it's going to stay in the Bourne garage long-term. With a few other projects on the go, he's not closed to the idea of selling the car if he's offered the right price. If you're interested, contact Bill on b.bourne@virgin.net. So this car's future is still to be written, but it could be by you. ■



Bill Bourne could be persuaded to sell the Westfield, despite its recent completion.



Tech spec

Engine: Honda S2000, 240bhp.

Gearbox: Honda S2000 6-speed.

Suspension: Front – Double wishbones (wide track), Protech coil-over dampers, aluminium uprights. Rear – Double wishbones, Protech coil-over dampers, aluminium uprights.

Brakes: Front – Vented discs with four-pot calipers. Rear – Discs.

Wheels and tyres: 13in Team Dynamics Pro Race alloys, 205/60 Toyo Proxes R888 tyres all-round.

Interior: Sport Turbo seats, digital dashboard with lap-timing capability, Mountney steering wheel.

Exterior: FW rear bodywork, V8 bonnet, MSA approved roll-over bar, Honda badging, aero fuel cap, carbon fibre exhaust silencer.

Useful contacts

Kit: Westfield Sportscars, Kingswinford, West Midlands. T: 01384 400077.
E: info@westfield-sportscars.co.uk
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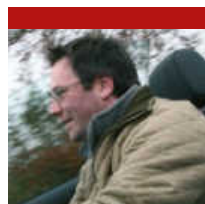
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Race Diaries

Our Race Diaries contributors have been kept busy by their motorsport activities, whether on the circuit, at an autotest, on the hill or in the garage. Here are their latest updates...



Alisdair Suttie

DISCIPLINE

Hillclimbing

RACES

Sylva Leader

CHAMPIONSHIP/SERIES

BHC Leaders
Championship

AGE

41

OCCUPATION

Motoring journalist



Where did the season go? It seems like only a few weeks ago I was planning an engine swap for the Sylva and which events to enter my recently-acquired classic kit car. Now it's nearly November as I write and the last hillclimb of my season was a month ago.

Since my last report, progress on the Sylva has been coming along, though the car itself is unchanged as I wanted to use it while the weather held out. The engine is coming together, though, and my friendly specialist will soon have it bolted to the gearbox complete with new clutch.

One decision I have yet to make is whether or not to spend the extra on a lightened flywheel. If this were a standard MX-5, I would probably not bother but I think the lighter weight of the Sylva compared to an MX-5 could make it a worthwhile swap. Brand new lightened flywheels ain't cheap and scouring the usual online classifieds has only yielded a couple that were either too expensive or too second-hand.

More inspiration came at a local classic car show when I spotted a Triumph Herald with MX-5 engine fitted. It gave me some ideas about how much space is required and also shows this conversion is possible for anyone with an existing Triumph-based kit.

Another small area of progress is which tyres to fit to the Sylva. This has been a topic of heated discussion among the road-going classes of hillclimbing as the sport's governing body, the MSA, has changed the regulations for 2016. It looks like a set of Toyo R888s will be my best



Above: Roger Williams' Austin Seven based Speedex – a classic self-build that's still in competition.

bet for completion and road use, so at least with some clarity now on the regulations I can commit to a set of rubber.

As for competing, the Multi Car Hillclimb Challenge saw my team-mate David Finlay taking part in the second Prescott round of the Leaders Championship. Sadly, a failing clutch robbed him of frontline times.

We were both out in force for our local hillclimb at Doune in a new Honda Civic Type R. This hot hatch hero was very quick up Doune's tightly packed course and both of us recorded personal bests, with David just pipping me.

The winning order was reversed at the final round of the season at Loton Park, which saw us compete in

the unlikely Volkswagen Touareg. This was only a couple of weeks after the VW emissions scandal emerged and fellow competitor Nigel Burke used his sign-making skills to create a joke sign that had a couple of paddock marshals checking the rule book for a while.

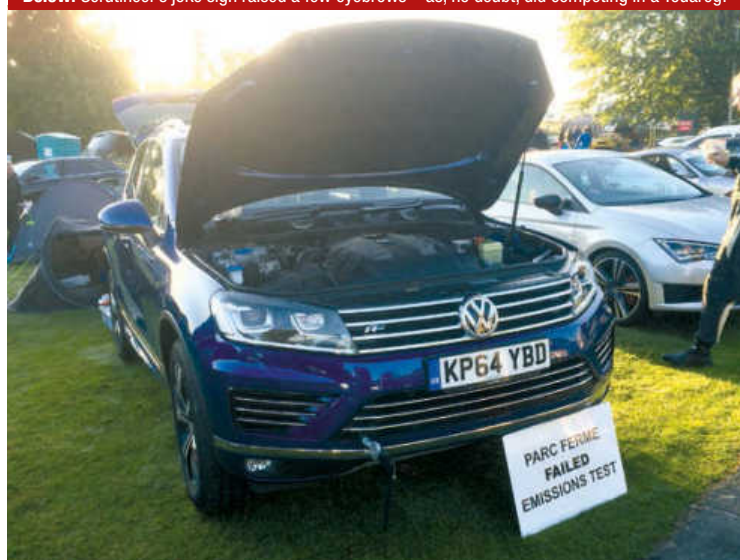
Just as much fun was a pair of classic kit cars competing at Doune in the form of Douglas Anderson's Austin Seven Special and Roger Williams' Austin Seven Speedex. Both are nippy and Douglas even found an alternative use for his car as a cupholder.

Only one cup for me this year for a class win at Harewood, but it's been another great year of hillclimbing. Here's hoping next year is even better in my Sylva Leader.

Below: Triumph Herald with a Mazda MX-5 engine proves engine will fit any rebodied Triumph.



Below: Scrutineer's joke sign raised a few eyebrows – as, no doubt, did competing in a Touareg!





Jack Walton

DISCIPLINE

Circuit racing

RACES

Pro Comp LA Gold

CHAMPIONSHIP/SERIES

750MC Sports Specials

AGE

56

OCCUPATION

Production supervisor

I had forgotten how much of a challenge to get right Gerard's at Mallory Park is. I still haven't nailed it. Excellent sunshine was great, but it now meant I could see sod all of my magic DigiDash. It was going to be a day of racing by ear – again.

A rubbish qualifying time only left room for improvement in race one. The up side was that I found my way round with no dramas.

The start went well, with me and Sylvia Mutch in her MEV resuming our battle were we left it at Snetterton. On lap three she got me coming out of Gerard's as I missed a gear (racing driver excuse number 42). Entering Lake Esses, all the red flags came out, it was then a trundle to the start line.

There we found a very bent Eclipse which had hit the wall at the pit exit. The decision was made to 'organise' a new start grid. I was one of the first five cars to arrive, which gives you some idea how far back the race leaders were at this point. After much pushing, pulling, shouting, reversing and driving on the grass a new grid was formed. While we were waiting, Steve Quenby's Tiger was pushed on the grass looking like a steam engine.

I made a great start and the first few seconds of the re started race went well until a bright green Tiger filled the track. Gary Davison had stalled on the grid. As my front right wheel got level with the rear of his car he took off, turning hard left in my direction. I took to the grass and we carried on, my battle with Sylvia re-commencing.

Two laps later, Mick Grant's Tiger went off in the middle of Gerard's with what later appeared to be a blown head gasket. The following lap I missed my braking point (racing driver excuse 21) going into Gerard's and Sylvia Mutch passed me again.

In line with my previous two-day meetings this year, it would now be time for a post-race beer and tales of derring-do. However, this was a one-day meeting, so the kettle went on and the car was fettled.

By half way through race two, I was regretting not finding the time to construct a more permanent seat. The bodge I was sitting in offered very little lateral support and with Mallory offering the longest and shortest corners in UK circuit racing I was starting to feel it.

For some, this was the last meeting of the season so there was some close racing. Sylvia Mutch had found some more power since Snetterton, but I managed to beat Stewart Mutch to the finish.

With the race over, presentations made it was time to pack up for the



Above: The three (which became two) car relay team for the four-hour race at Snetterton.

drag back to home in Lincolnshire. A long enough drive to think of the list of jobs to be completed over the winter...

- 1) A new seat to make so I no longer get thrown around in the car.
- 2) Nodiz ECU to be fitted and tested.
- 3) Dials have been received just need fitting. They include three engine gauges from the thoroughly helpful and knowledgeable chaps at ETB, and a Racetech tachometer has been purchased, Burton being the cheapest supplier.
- 4) I will also buy a new helmet, probably a FHR ready V2 Super Vent to go with my HANS.

None of my racing this year would have been possible without the constant support of number one race mechanic, Rachel. From seat-making to passing tools to pushing cars and providing huge amounts of food for race weekends. Thanks also to Steve Jones for the photography.

All thoughts of Mallory being the last race of the season were expelled on receiving a phone call from Billy Fletcher. A plan was hatched for a three car and driver team for the MGCC Heritage four-hour relay race at Snetterton. All the cars in our team competed against each other in the ACS Limited Kit Car Championship pre-2000. As well as my Procomp, Team High Speed Low Cost comprised...

Ian Smythe was there in his Fisher Fury. Recently purchased with a highly-tuned 1600cc CVH, it has since been fitted with a Focus ST170 engine. This was to be Ian's first drive of it. Billy

Fletcher had his Hornet Mk2, an evolution from his fevered car-building brain with a rumoured Mk5 under construction. In the spirit of Team High Speed Low Cost, a recently refurbished second-hand 2.0-litre Zetec was only rebuilt and fitted two days before the race.

I had managed to get the three engine gauges fitted on a temporary dash panel before arriving at Snetterton, and a new seat has been fashioned. This left the fitting of the Nodiz ECU and Racetech tachometer. I had talked with Matt at Motorsport Electronics about my plan to give the Nodiz its first test in a four hour race, and he was confident it wouldn't let me down.

With our grid position already decided by the MGCC, qualifying was just a chance to test our cars. All went well apart from my newly-made bag seat forcing me to drive like Quasimodo. This was rectified with some well directed violent action with a hacksaw and a Stanley knife.

Ian started the race and, in short order, he was setting times just where we needed for the handicap.

I followed Ian out and the plan was going well. Billy went out next – and he was back unannounced in the garage in under five minutes. Head gasket gone, he was out of the race.

Ian put in a quick stint while I refuelled and got back in the car, water bottle to hand as it got warmer and warmer. I completed my second stint, enjoying the variety of cars on circuit: from big old Morgans to small but very powerful MGB V8s, original Lotus

Below: A few winter mods lined up for the Gold.



Below: Billy Fletcher chats to Jack at Snetterton.



"By half way through race two, I was regretting not finding the time to construct a more permanent seat. The bodge I was sitting in offered very little lateral support"

Sevens, Sprites, Elises and other quality.

My return released Ian for his next stint. Ian came back in, but given the nature of relay races had no chance to update me on track conditions. I soon found out anyway.

An oil leak had laid a nice slick between the Bomb Hole exit and just short of the entrance to Murrys. I encountered this coming out of the Bomb Hole and managed a double 360deg spin before coming to rest across the track. I was fortunate that following cars had witnessed my ballet and avoided me.

It transpires that Ian had met the same slick on the apex of Coram and stopped sliding just inches from the tyre wall.

Ian and I were either strapped in on standby or racing for the whole four hours, less Billy's short appearance.

Ian took the final stint and the chequered flag. After the handicappers had done their sums, we finished third in class and 10th out of 26 teams. My gauges all worked in their temporary positions, the Nodiz behaved faultlessly and my seat was eventually

comfortable. I must thank Gilly for her efforts on the pit wall for four hours and the constant mechanical help given by Hutch, who only came to watch some racing, before he was recruited in to Team High Speed Low Cost as chief mechanic. A good effort by what became a two-car team.

The standard of driving at this event is much better than some of the regular stupidity that has appeared in recent years at the Birkett. Entering three cars was always going to be a risky strategy. Roll on next year – Billy Fletcher has a plan.



John Pick

DISCIPLINE
Hillclimbing

RACES
Adrenaline Murtaya

CHAMPIONSHIP/SERIES
Avon Tyres/TTC Group
MSA Hillclimb Leaders
Championship

AGE
57

OCCUPATION
Project manager/director

What do Doune Hillclimb and a hungry crocodile in front of you have in common? They both need respect and quick wits!

This Scottish outpost is, in spite of the distance from the Midlands, not the most northerly speed event, but nestling just north of Stirling it is, as they say, 'a fair way into Scotland' and also home for Alisdair Suttie who no doubt is waxing lyrical in his column on how his Sylva is nearly ready for the season... 2017?

True to my resolve this season, I drove the Murtaya the 320 miles there. This would not have been possible if I was using the supersticky tyres favoured by the Caterfields – I would not have got as far as Stoke on those. I even turned the fuel pressure down to improve the economy. Doune is unusual as a hillclimb, in that it has no other purpose. There are no farms on it. There is also nowhere to hide.

Doune is one of the faster hills on the MSA British Hillclimb Championship, but that is tempered by being only just wider than a car's width. As former champion and this season's runner-up, Trevor Willis remarked, "There is no oops I just caught that, because the barriers will have done that



Above: Trevor Willis a blur. There's no run off!

for you." He has removed seven corners in one weekend. Suitably concerned then, I walked the course many times, but it still does not prepare you for the real thing. All the corners in the bottom half of the hill are blind and quick. You therefore need to know them instinctively. Son Harry, who has had the pleasure of a couple of trips there, recited the 'left, right, right, left, right, left, right, right' mantra, but it was no use, I had to learn it for myself. And it all looked so different in the car. So I adopted a get-it-up-the-gears-into-third-and-then-stop-fiddling-with-the-gearstick-and-just-drive-the-corners approach. You have to ignore that it is stone wall one side and Armco the other, or wooden barrier of equal stoutness and potential damage. It is like Shelsley on steroids.

Now that all sounds challenging



Above: Crazy Rover KV6 powered Rush.

enough, but you emerge from this tunnel of torture into the meadow and seemingly things are easy; except that the right hander into it is the hardest corner to master with the line being compromised by barriers and some hard things to hit on the outside – which will inevitably happen at least once in the weekend. It did this weekend with a shortened Fiesta.

A couple of fast right-handers then lead up a steep one-in-four hill which then flattens out on the apex that is East Brae. The instructions are to see the last marker and turn in. Now with the Murtaya, you get great turn-in which meant I ended up on the grass on the inside. At least that's preferable to the grass on the outside which very quickly leads into the Armco. Some more normal corners lead you across the finish line with the holding paddock having spectacular views across the valley to the south. With later runs, I learned to stretch up in the seat as I approached East Brae so I had a chance of seeing over the bonnet and glimpsing the apex.

No pressure then! After our handling experiments at Prescott with quick sand, we decided it was best to leave the car as it was. So the week before we took 50lb off the rate of the rear springs to try and give it some more mechanical grip. It was fine on the M6 but you don't exactly explore extreme handling on Shap fell. To be honest, I had no idea if it was different or not.

A first run at 60.66s was considered very good for a newbie and we steadily chipped away the times over the weekend, losing a bit here and gaining a lot there to end up on

Below: A busy top paddock at Doune. Venue is unusual in that it's a dedicated hillclimb course and nothing else.



56.26 on the first timed run, whilst more experimentation yielded a slightly slower second run. Now don't get too excited! As the only regular championship runner, I was firmly last and Graeme Wight got down to 45.87, but he has won there outright in big single-seaters and his GWR Dax Rush sported the most potent Rover KV6 imaginable, a throwback from the MG XPower Le Mans effort of years ago – and he was 2sec off the record. So there is some work to be done and I am sure 53s are possible with no car changes. Again, Doune was unseasonably dry so 4WD was not called into play.

A week later and we were back for the last round at Loton Park. At last, I could really evaluate the handling changes and there was not much difference so it is back to the drawing board on that one. There was a big entry this time and once more former outright Hillclimb Champion Roger

Moran showed everyone a clean pair of heels. A damp first run saw the Murtaya in the mix but, by Sunday, it was very dry and the Caterfields were able to put down their prodigious power. A personal best result did not stop us being last in class 14th, if you don't count Alan Warburton's retirement with eyesight difficulties... but we were the only car in the class to drive to the event.

And then there is the inevitable comparison of my season to a cocktail stick. At least a cocktail stick has two points. I could have got more had I used the Murtaya at Wiscombe and Harewood instead of the Mini, but that was a good warm-up for the historic new event at Chateau Impney in July.

So, to next year. What will we do? Well, the car is up for sale as I kind of need the space/money although this is not the real plan! The aim is to earn enough so it can stay. The MSA have dealt us a nice opportunity. The class has run on List 1A and 1B tyres – the

1As are fairly sane go-faster tyres suitable for road cars. List 1B was always acknowledged to gain 2.5sec on their own, but manufacturers such as Avon have produced increasingly sticky compounds and these, whilst road legal, would not actually work on the road as they are made to last the minute or so a run takes. Partly due to EU legislation, they have now been put into a new list 1C category, and this will not be eligible for the championship next year. So... if we can afford to keep the car and then buy some 1B tyres, it could then be a very competitive car given that the Caterfields will be unable to put down their prodigious power.

If you fancy a crack, either come and buy the car or perhaps come and share it as we have now worked out the next set of development tweaks. You will never have as much fun with your clothes on and, better than that, there are two events at Doune next season.



Ian and Chris Chapman

DISCIPLINE
Autotesting

RACE
Sylva Riot and Raw Striker

CHAMPIONSHIP/SERIES
BTRDA Autotest
Championship

AGES
54 and 26

OCCUPATIONS
Cabinet maker and junior
architect

The championship was coming to an end with just the final round at Blyton Park to go. On the up side, it's time for our annual display at Castle Combe circuit for Rally Day. It's one of our favourite outings, but with it comes a few headaches.

It's the day before the Demon Tweaks BTRDA and MSA autotest championship final, so understandably nobody wants to risk breaking their cars showing off at a display. Normally, it wouldn't be a problem. Chris and I could manage on our own but the prodigal son had work commitments, leaving me on my Jack Jones. Luckily, my best buddy Gordon was on hand and happy to bring his Westfield for a play.

I'd invested in two long speaker leads for the PA system so we could position the speakers further apart and flood the arena with sound. This really helped pull in the crowds, our display area is next to the circuit entrance and is always busy. I'd been toying with the idea of something different for this display, but neither of us were sure it would work but, hey, nothing ventured nothing gained so we gave it a go!

We started with Gordon in his Westy on the start line and motormouth (me) on the mic. That's the bit we were unsure about, not the driving. Would anyone understand my broad Yorkshire accent (by 'eck)? I started with an insight into autotesting, explaining the four basic manoeuvres, Gordon then performed them starting with the handbrake turn then the J-turn and finally a bit of drifting and a few donuts. Gordon then drove around the test layout without using

any of the manoeuvres. We thought we might start losing spectators with all talk and not much action. In fact, the crowds seemed to be growing. It was now time to drop the mic and let my Xmoor Riot and the Westfield do the talking. We drove the test three times, each showing all four manoeuvres in action, then back to the mic for some merry banter before our big finish. This involved me chasing Gordon freestyling around the arena then into a donut both nose to nose around a cone. As we parked up the applause and positive feedback proved the new format worked. We did seven shows. Apart from a broken fan belt on the Riot, a blowout on the Westfield mid-show (lucky we had Chris' Striker in the wings for back-up) it was the best show we've done at Rally Day.

Sunday morning, and it's business as usual. Two-hour drive to Blyton Park, scrutineering, walk the tests and line up ready for action. The three tests looked good. After the first run, the Riot's

gearbox was playing up. I'd select first gear, it seemed to go in OK, then let the clutch out and nothing. I could have changed the gearbox – my brain said yes but my body said no and won. Little did I know that, had I changed it, I would have won the class and taken the sports car class in the MSA British championship.

Back in the mancave, the first gear problem turned out to be a broken weld on the gear selector. It's held on by four bolts and took five minutes to change.

One problem I've had since building the Riot is the handbrake. It's too near the gearlever. When I pull it then go for reverse, I catch my little pinkie on the handbrake and can't reach the gear lever. Now the Riot's working OK, I can address these little niggles. Enter stage right one shiny new handbrake 30mm shorter and 25mm further forward. My youngest son, Phil, suggested putting it on at a quirky angle, like the rally and drift cars do and it's brilliant now (clever little dicky!). Or is it? I will explain in my next report... ■

Below: Rally Day display proved to be the most popular yet. Big crowds for all seven shows.



Autosport International, NEC, Birmingham

Autosport International at the NEC (16/17 January) is the annual motorsport mecca for performance and race car enthusiasts. Autosport International is where you get an almost unique opportunity to get up close and personal with many of the Formula One cars and their star drivers. Being able to look closely at the F1 tech adorning all of the current crop of F1 machinery is mind-blowing and every car from the 2015 grid will be represented in the Formula One display. With Lewis

having just grabbed his third World Championship, this is bound to be a very popular part of the show. Keep an eye on the Autosport website for updates on this area.

But it's not all about elite top end motorsport, as the show also showcases all forms of automotive competition, from grassroots sprinting and hillclimbing, to rallying and circuit based events organised by the likes of the 750 Motor Club and Classic Sports Car Club. It's here you'll find all manner of championships and series which cater for kit car owners looking to get the most from their cars.



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This is a big show, with lots to see and do.

Need an engine rebuild, suspension upgrade or ultimate bespoke cooling solution for your car? Then all the main manufacturers will be at the NEC in January. Here you can talk to the people who will make the parts you need, to see exactly what will suit your requirements. Autosport has very real relevance for the typical kit car builder and driver.

Live action is another key attraction of any visit, and at the NEC you can head for the Live Action Arena. A number of 70-minute shows are put on each day, with exact details still to be confirmed as we go to press.

In addition to the Autosport International show, the Performance Car Show, in association with Autocar and PistonHeads.com occupies its own unique hall and has a very different focus to the trackside appeal elsewhere. If you've always wanted to see an Ariel Nomad up close, a BAC Mono, or just want to ogle the latest Lamborghini supercars, the chances are you'll find them

all here.

It's also where you'll typically bump into a few familiar faces, such as Great British Sports Cars, with its impressive Zero. Expect a few other kit car manufacturers to be in attendance such as Westfield Sports Cars (with some new model derivatives to be revealed), Marlin Racing's sister company will be there with the latest version of its Avatar, Exo Sports Cars will have a stand and the Niche Vehicle Network always promises a great display of specialist British car manufacturers. Familiar parts specialist Rally Design will be on hand to sell you some of the tools and parts you may need for your project, along with a variety of other specialist suppliers.

And you'll also find the CKC team there, although we'll have a slightly different hat on... We are taking our *Trackday Directory* to the Performance Car Show and are hosting a track day area within the event. Designed for use on either your smartphone or tablet, the *Trackday Directory* is completely free to use and enjoy! Just head for the app store, search *Trackday Directory*, download and use...

Key features of the *Trackday Directory* include a massive diary of all the track days we know about. Vitally, each entry includes the price, the noise limit and live link to the track day organiser's website, so that you can easily and quickly book the days you are interested in. Need to find a new part or upgrade for your track day car? The Directory has a massive directory of suppliers, all arranged in logical sections such as 'Cooling', 'Brakes' etc. Once again,



Great British Sports Cars will have a stand at Autosport.

live email and web links mean you can easily contact or buy the items you need via the directory. Looking for a new track day car? You'll find those in the app too, with specifications and details on many of the UK's leading track day machinery, including movie clips of the cars in action and much more. If you haven't downloaded the app before you come to the show, head to our stand and try it out to see how easy and useful it is.

Elsewhere in the Performance Car Show you should take in the massive PistonHeads display at the Pie and Piston 'pub'.

The Coys auction display is another entertaining array of cars you may just be able to afford, and some you definitely will not be



Marlin sister company Avatar Sports Cars will be there with its One racer.

able to afford! But above all else... it's great fun looking and dreaming of that lottery win.

Modern supercars always feature prominently at the Performance Car Show, along with many long-established tuning houses. If you can't help but lust over carbon-wrapped Lamborghinis or chrome Ferraris, here's where you'll probably find some. All good clean fun!

If you are coming to the show for just one day, make sure you get there early, as there is a huge amount to see... and make sure you wear sensible shoes, as you'll do a lot of walking! After the over-indulgences of Christmas and New Year, the combined Autosport International and Performance Car Shows are the perfect tonic to get you excited

about the motoring year to come.

Make sure you come and find us on the *Trackday Directory* stand where we'll have our 2016 CKC calendar available for free, alongside the latest issue of CKC and the UK Kit Car Guide.

We look forward to seeing you there. ■

Ariel's latest Nomad has been making a huge impact since it was launched last year.



Show Details

When? January 16th /17th

Where? NEC, Birmingham.

Satnav: B40 1NT

How much? Adults from £35. Children £23 (under fives free). Group tickets available.

Paddock passes £46. VIP tickets £127. On the day prices may vary.

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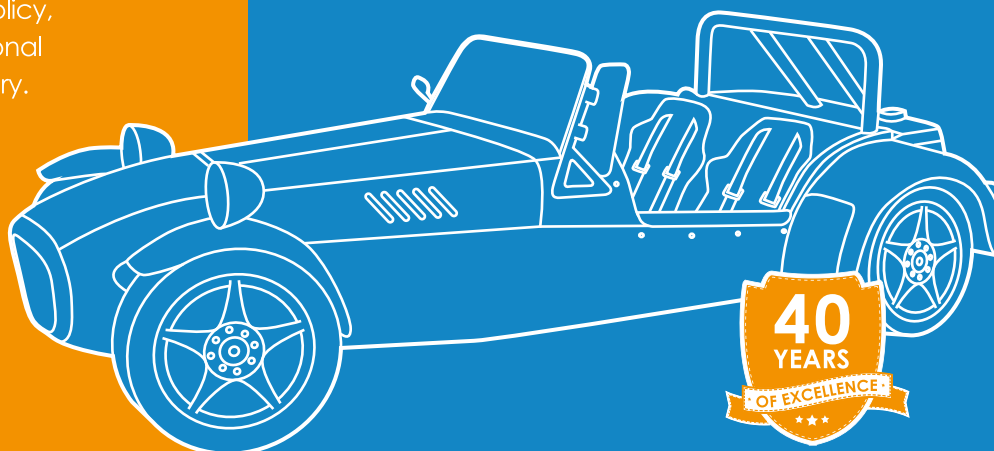
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Messing about ON THE R



The briefing was clear and unambiguous. There isn't much to remember. Just pull this, turn that and head out onto the water. You'll soon know if you've screwed up. It's just that intentionally driving a car into a river is an experience like no other. It is counterintuitive. Apprehension leads to incomprehension as we leave dry land, the fact that we're still afloat and actually moving under our own steam moments later only adding to the sense of wonder. Sure, we're travelling at 6mph – at best, but the Dutton Surf is more fun at this speed on water than most supercars are at 30 times as much on *terra firma*. Driving a Surf isn't just an adventure, it's an event.

Like most journeys into the unknown, the decision to build an amphibious car began with a question. Tim Dutton never intended becoming the world's longest-established manufacturer of this type of machine. It happened more by happenstance than planning. In the 1970s and '80s, Dutton sold conventional kit cars in vast numbers, employing more than 80 people in four different factories. Life was good and, as such, he wasn't above indulging himself with a few toys.

Dutton particularly enjoyed being out on the water close to his home on the South Coast, but, towards the end of the '80s, he was no longer allowed to tow his speedboat onto a beach nearby. Being the resourceful type who doesn't mind tweaking the nose of officialdom, he decided to build a vehicle that could be parked or driven onto the beach legitimately.

"There was a slipway there, but the council stopped anyone with a boat from getting anywhere near it with a tow car," he recalls, clearly still exasperated by the decision. "If the tide was miles out, you had to disconnect the trailer and push the damn thing about a mile. It was unbelievably stupid. Anyway, someone jokingly asked me why I didn't make an amphibious car. That way, my problems would be solved. That's how it started. The rule said nothing about a boat that can also be driven. That comment about sticking it to the council lodged in my brain and I built the first prototype in 1989. I didn't actually start production until 1995, though.

"I stopped making kits in '89 and went around the world designing cars for other people. I was involved in projects for companies in Russia, India, Guadelupe, Nigeria and Iran. However, after three or four years, I wanted to make something myself so I began looking at doing this

Tim Dutton never set out to be the world's longest-running amphibious vehicle maker – it happened almost by accident. Richard Heseltine takes his own journey into the unknown by driving into a river for the first time...

Words: Richard Heseltine **Pictures:** Ian Stent

IVER





Aside from nautical instruments, interior is pure Suzuki Jimny.

commercially. It's hard to believe, but I've been building these things, or rather variations on the theme, for 20 years now. I have been doing this for longer than all the other manufacturers put together."

When we tell one another stories about life-changing decisions, we tend to gloss over those days when we wanted to quit and skip straight to the breakthroughs. There was no manual for making amphibious cars so the creation of the first waterborne Dutton was two parts perspiration, one part inspiration. Everything was figured out on the fly, with ideas being whittled down until the definitive design worked and worked well. The initial prototype featured a Dutton

Sierra Drophead 'shell but the Commander that emerged in 1995 was something else entirely. Based on Fiesta running gear, it racked up its fair share of column inches. It also found favour with everyone from those looking for a weekend plaything to members of the Kuwaiti royal family. It's just that not everyone was satisfied.

"The first car was based on the Fiesta Mk3 [Mk4/5 variants followed] which, in retrospect, was a mistake," he says. "Everyone kept asking me why I hadn't made it four-wheel drive so we started looking around for a different donor. The Suzuki Samurai had exactly the same track as the Fiesta so it made sense to go with that, but I had to continue producing

the Fiesta-based car for five years just to amortise the cost of the moulds and suchlike. The great thing about the Samurai was that it was very cheap and popular all over the world. We had to make the hull slightly wider, but it was relatively easy to make the changes."

This in turn evolved into the Suzuki Jimny-based Surf which entered production in 2006. "The Jimny is night and day better than the Samurai which was a lorry by comparison," Dutton says. "On post 2006 Jimnys, you get air-con, ABS and so on as standard. And you can pick one up for £1500."

To date, Dutton has sold more than 200 amphibious vehicles, and demand for the



Tim Dutton has been designing and manufacturing cars since 1969.

Tech spec

Engine as tested: 1300cc Suzuki Jimny. 80bhp.

Engine options: Smaller capacity Jimnys were produced, as well as a 1500cc diesel. None particularly recommended and diesel only suitable for LHD cars.

Chassis/bodywork: Fibreglass monocoque. Stainless steel spreader plates mounted into mounting areas for suspension etc.

Suspension: Standard Suzuki Jimny 4x4 IRS suspension.

Steering: Suzuki Jimny rack and steering box.

Brakes: Disc/drum. ABS from 2005.

Kit price: From £8650.

Budget build cost: From £12,000.

Contact: Tim Dutton, Arun Shipyard, Rope Walk, Littlehampton, West Sussex BN17 5DH. T: 01903 713313. E: factory@timdutton.com W: www.timdutton.com



Surf shows little sign of abating. The basic structure consists of the underside which forms the hull, and the bodywork – or topside if you will – which are made of glassfibre and bonded together at the Dutton factory in Littlehampton. It is essentially a monocoque, with only a few holes cut into it for items such as the steering shaft (which is kept watertight via a rubber seal).

The engine, fuel tanks and cooling system sit inside the hull, the axles and suspension outside of it. A short propshaft from the back of the gearbox takes power to the transfer box which is rubber-mounted and sits inside the hull from which one prop goes forward to the front wheels, the other back to the rear wheels. This pair

of propshafts pass through the hull, each sleeved in rubber which is clamped around a flange on one end, and around a flange on the hull where the prop exits at the other. It's simplicity itself; brilliantly so. The factory-modified Suzuki high/low selector allows the drive to be disengaged when wet, sending it instead to the shaft of the jet propulsion system via a dog gear (the jet arrangement is made in-house, while the impeller is also a Dutton design). This is somewhat of an oversimplification of what's involved, but, as the man himself is keen to point out, it isn't rocket science.

"I deliberately made the car agricultural," he says. "Take the transfer box. It isn't electronic on the Surf. The motor is

external to it. Now there's just a rotary knob: when you want to go into four-wheel drive, you simply turn it. Job done. There's nothing electronic on the Surf other than the ECU. It doesn't matter if you break down on the river or in the Sahara, you should be able to fix any problem."

Up close, what strikes you is how large the Surf is. Or rather it appears bigger up close than photos might have you believe. It isn't exactly beautiful – or even close, but here form really does follow function. Up front, the VW Golf headlights are instantly identifiable (more recent Polo items will soon be substituted), the slight wheelarch flares being in place to appease the IVA. "They came out with a rule that says the



Volkswagen Golf headlights soon to be replaced with newer Polo items.



wheels mustn't stick out further than the widest part of the body. The widest part on the Surf is the black edging strip, but I was obliged to put arches on it anyway."

"The splash on entry is nowhere near as violent as you might imagine. What's more, it's next to impossible not to laugh"

Once aboard, the cabin is pure Jimny. The dash is much as you remember, save for the box on the passenger side which houses a depth gauge and switches for the two bilge pumps. The unflappable Dutton then runs through the remarkably simple procedure for engaging the jet and disengaging drive to the wheels. Should you make a hash of it, you will simply bob about not going anywhere. Should you forget what you were told, instructions are written on the back of the sun visor. It really is fool-proof.

The splash on entry is nowhere near as violent as you might imagine. What's more, it's next to impossible not to laugh. Once in

the water, this sense of sainted lunacy is only heightened further. Steering is now via a tiny rudder sited opposite the jet and controlled by the steering wheel. To begin with, there is a tendency to over correct. Dutton claims that all newbies are prone to twirling the tiller when smaller inputs are required. However, after only a few minutes' practice, guiding the Surf becomes a doddle.

That said, the River Arun is fast-flowing with a strong current. When cruising at a giddy 4mph, it's relaxing despite the 1.3-litre four-banger being less than quiet. It sounds busy at the best of times, and is clearly having to work hard. The fan is noisy, too, and always engaged. Once heading with the current, progress is that much easier but, to be honest, there is little to do. It's relatively effortless. You just sort of sit there smiling, all the while conscious that you're a magnet for camera phones. Everyone on the quayside stops to take a pic. According to Dutton, this is to be expected. For him, it's just another day.

After about ten minutes in the water, it's time to head back to dry land. Approaching it ever so slightly sideways isn't ideal, but, once the front wheels find purchase, you're away. You simply disengage the jet and drive it like a normal car. As for its road manners, well it's much like a regular Jimny, but then our 'test' lasted all of half

a mile – if that – to the Dutton factory.

That the Surf continues to sell despite being a relatively old design, comes as no surprise. It works brilliantly at its intended purpose. Sure, there are amphibians which are faster and maybe even sexier, but they seem to exist only on glitzy websites or in share prospectuses. The Surf simply has no real competition. Not that Dutton is resting on his laurels. The sister Reef model is set to enter production as this issue closes for press. Based on the latest-generation Fiesta, with the engine sited in the rear, it's clearly more of a leisure craft than the go anywhere, do anything Surf. It is expected to be faster, too, thanks in part to having more horsepower and a narrower hull. There is also another model on its way, but we're not allowed to talk about it...

As for the question of whether you would actually want to own a Surf, therein lies the £25,000 question. This price is for a fully-built car (although this figure varies either way depending on spec), with kit packages starting at £8560. To this, you need add only bits from the donor Suzuki. The Surf has singular appeal, and is great fun. But more than that, it's a credit to the British kit car industry. In a world of 'me too' replicas and Seven-type roadsters, it stands alone as something genuinely interesting and unique. For that reason alone, we love it. ■



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WHAT WERE THEY THINKING?

Another chance to look back into the archives and wonder at the madness, imagination, ingenuity and occasionally downright brilliance of one-off builders from yesteryear. We salute you!

Words: Ian Stent **Pictures:** CKC archives

Mini monster

Looking just very slightly like a Cox GTM that's gone horribly, horribly wrong, this one-off was built by Derek

Davenport from Birmingham in 1974. All his own work, he used two Mini subframes located in his own spaceframe chassis, before



clothing it in an all fibreglass body. Powered by a 1300GT A-series engine, this picture found its way into Peter Filby's 1981 book *Amazing Mini*.

It's easy to be hyper critical of one-offs like this and the styling is certainly questionable, but anyone who builds their own car from scratch gets our admiration. After all, could you do better?

Faithorpe special

Featured briefly in the October 1983 issue of *Kit Car*, this Faithorpe special was originally built on an Electron Minor chassis by two Faithorpe employees back in 1956. Mike Crosher found the car in a barn and had to completely rebuild it to get it back on the road, replacing the original Coventry Climax engine with a more modern 1296cc Triumph Spitfire lump.

Jaguar special

Apologies for the very foggy image, but the car is worth it. Surprisingly, the info on the back of the print tells us it was built comparatively recently, in 1977/1978. The mystery owner describes it as a Jaguar Le Mans Special, having retained the chassis and running gear from a MkVII Jaguar. Engine was a 3.4-litre straight six developing around

200bhp and driving through a 4-speed gearbox with overdrive.

Complete with four seats, this was a seriously attractive car and the standard of build looks very high. With no registration number on the front we can't even check to see whether it might still exist, but it looks far too good to have been scrapped. Anyone know its whereabouts or the story behind it?



More mokesque

How many one-off Mini based Moke inspired cars have been produced over the years? There must be loads! We rather like the look of this pick-up which has a simplicity of design, yet which appears tidily constructed. We particularly like the slight overhang of the bonnet which helps to frame the headlights... a neat touch. A hard



top clearly makes this a practical vehicle, although the doors are particularly short. Can't find any more information on it, but if you know more, pass it on!



Oddities together

Most of the cars we feature in this article are to be found in a folder marked simply 'One-offs'. Without exception, they are prints and slides with no accompanying information, so it means hours of trawling through early issues of *Kit Car*, *Alternative Cars* and the like to stumble across the necessary explanations as to what on earth they are!

These two cars have no connection whatsoever, except that the black and white negatives were found in the same little bag and are clearly of the same vintage. But you couldn't find two more different cars. As with much of the early stuff in our archives, we suspect these are of *Hot Car* origin. There's a slightly bonkers feel to the traditional roadster, with its fab exhaust and oversized front grille, but it's the diminutive mid-engined creation that really caught our eye. Presumably VW Beetle based, we'd love to see it today, but a registration check hasn't proved encouraging.



Sevenesque

Really not sure what to make of this creation which in many, many areas appears pretty rough. The wheels almost look home made! Still, it's not all bad

and it almost appears as if the windscreen may actually be curved, which would be unusual for this type of car. We also rather like the header rail mounted wiper system.

Buggy

This Beetle based creation (seems too developed to call it a buggy) was spotted at a VW meet in the early '80s. It certainly looks pretty amazing to us and we've a sneaking suspicion a reader will berate us for not realising it was offered as a production kit car and isn't a one-off at all! It certainly has a productionised look to it and with the gullwing

doors it must have been surprisingly practical. We await your beration with anticipation!



Jodrell returns

Some of the cars we've featured here come with little or no information... just a picture! But we've managed to unearth a little more on the story behind the Jodrell special we featured in issue 97. A paper cutting found in the CKC archives features the car when it was first built! One Steven Jodrell was the man behind it. Based in Furness Vale in Derbyshire, Steven built the complete fibreglass body himself, using his own multi-tubular chassis on which was hung a Ford Cortina live rear axle and Sunbeam Rapier front suspension and brakes. Doors were to have been gullwing affairs, but ended up conventional. And the total cost of the build was around £400.

Sadly, a registration check suggests the Jodrell may no longer be with us.



Minette marvel

When BP launched a 'build a car' competition in 1974, this beast was one of the entries! Featured in *Hot Car* in the same year, we sadly don't have the specific issue to help us with more details. What we do know is that this Mini based marvel was called the Minette. It also appears that entry to the car was via the rear stable

door arrangement! Presumably assembled by the two gents in the pics, we can't help but feel that even they don't appear convinced by what they've created. Awkward.





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Also this month:
New products

DNA 4Thirty

We follow the immaculate build
of Paul Lucas' DNA 4Thirty



Our Cars

The latest goings-on in
our garages



DNA 4Thirty

Building a DNA 4Thirty bodykit can be both easy and quick. But it takes a little longer if you install a V6 engine conversion and progress the build to a whole new level. Ian Stent investigates Paul Lucas's build.

It's perhaps all too easy to discount the bodykit craze currently sweeping the kit car scene as the 'cheats' way of building a kit car... simply throw a new set of clothes over an existing production car and send it to the paintshop... job done.

In fact, CKC is guilty of actively promoting that theory, when we built a Bertini GT25 over the weekend of the 2014 Donington kit car show. It really was that easy.

DNA's 4Thirty kit is a brilliantly fabricated body conversion for a Mk3 Toyota MR2 and I've no doubt that it too could be 'completed' in short order if needed.

Alternatively, you can do what first-time builder Paul Lucas did when he embarked on his project... built it with minute precision and an obsessional eye for detail and finish. The result is utterly spectacular and one where the build pictures here can barely scratch the surface when it comes to showing the work involved. Make no mistake, this bodykit build was as involved and skilled as any more conventional kit car assembly.

Paul had modified production cars in his 'yooof', before settling into the busy work and domestic life that engrosses so many of us... not so much time for playing with cars. And then in his mid-thirties he felt he could do with an interesting automotive project. With space at home limited to a small single



Paul (right) with dad Ev and the DNA they have created together.

garage, he asked his dad Ev if he would be interested to be involved. Ev had considered a kit car project back in the '80s and was handy with the spanners... it also helped he had a large car port in addition to his own more generous single garage. Ev loved the idea, and the project was given the green light.

Paul fancied a Ferrari or Lamborghini replica and it wasn't long before he came across the bodykit scene and likely contenders such as DNA Automotive.

For Paul, the owners' club website was a major factor in encouraging him to have a go. He looked at various build blogs and felt he would be able to achieve something similar. A visit to DNA followed and Paul was thinking he would go for the company's seemingly more affordable 3Sixty model. But after chatting with the guys at the factory he moved onto the 4Thirty. With the option of the convertible model or coupé 5cudo, it was wife Jules who

Below: MR2 base vehicle was immaculate.



Below: MR2 base left unmodified. External panels unbolted.



Below: Even the rear wings can be unbolted.



Below: Paul did much of the work in his dad's car port.



Below: Outer skin of door top cut away. No going back now.



Below: DNA front suspension upgrade fitted at this stage.





Above: Rear clam is all one piece. Makes fitment easier.



Above: Door in position over original MR2 door. Fit is good.



Above: Mods begin on the dummy engine cover.



Above: Pipes and clips help with the transformation.



Above: Main panels all trial fitted.



Above: Bootlid and bonnet still to go on.



Above: Bootlid panels located on steel framework.



Above: Smaller panels need careful alignment.



Above: Double skinned bonnet with hinges in place.

swung it for the convertible... time to look for a donor car.

On DNA's advice, Paul searched for a post-2003 facelift version of Toyota's Mk3 MR2. It comes with a 6-speed gearbox as standard and more modern lights that can be easily sold on to MR2 owners looking to upgrade their earlier cars. Looking for the lowest mileage car he could find, Paul hit on an immaculate example with just 29,000 miles on the clock and spotless throughout. Having paid £3250 for it, within a day he was stripping it of all its external clothes. The strip down was

easy and swift and Paul managed to sell on over £1500 worth of the unwanted parts... his immaculate donor had now cost just £1750.

One of the very first jobs was to cut out a small section of the outer skin of the door tops. Marked up and then removed with an angle grinder, it was a sobering moment. "Dad was filming it," remembers Paul, "and I thought, bloody hell... what have I done! It was the point of no return. Up to that point I could have put all the panels back on the car and sold it again."

With the MR2 bare, Paul also

thought this was the ideal time to fit DNA's replacement lower front wishbones, while access was easy. He's also bolted on the necessary hub extenders which would get the DNA supplied replacement alloys sitting in the correct position under the new bodywork.

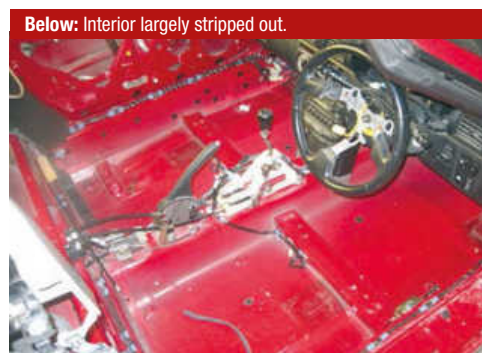
Almost everything not supplied by the donor car was supplied by DNA, although Paul found himself sourcing additional fasteners and other minor sundries because he was adding brackets here and there and going the extra mile at every opportunity.



Below: DNA wheels in place and good progress made.



Below: Making up the replica wing mirrors.



Below: Interior largely stripped out.



Above: Inner door panels replicate Ferrari originals.



Above: Paul moves the car just prior to paint.



Above: MR2 steering wheel with airbag removed...



Above: ...needs further stripping before rebuild...



Above: ...DNA conversion kit works well.



Above: Replica style gauge faces to be fitted...

Although lining up the new fibreglass panels was easy (starting with the doors and working out from there), getting the gap correct for where the leading edge of the door panel passes inside the trailing edge of the front wing when it is opened, required very fine adjustment.

Unsurprisingly, getting the fit and finish correct now, before the car was painted was of paramount importance. Paul also fitted as much as possible onto the bodywork at this stage, to check position and pre-drill any fixings. He fitted items such as the inner wheelarch liners, where many builders

cut and fit them after paint. He even trial fitted all the grilles for the various apertures in the bodywork... all ready for simple fixing at a later stage.

Finally, it was ready for paint, and Paul charged the DNA factory with finishing it in Ferrari red. Interestingly, having chosen a red donor car so that the engine bay and other areas would be in red, since the car isn't the exact same hue as the new Ferrari livery Paul now thinks it would have been better to buy a black donor car so that these areas were effectively neutral to any exterior colour.

While the car was away, Paul

had made sure there was plenty he could be getting on with. The front headlight assemblies needed putting together, the seats and inner door trims were sent away for covering, and the dummy engine cover needed preparing... the latter a major job that would develop over the course of the whole build...

The dummy engine is a fibreglass moulding that sits over the MR2 lump and is visible through the 4Thirty's rear glass. Carefully painted, it can look surprisingly convincing, but Paul went a lot further. Many people add jubilee clips and various rubber pipes but



Below: ...dial needle best removed using spoons as levers...



Below: ...new dials in place on stripped panel.



Below: Basic headlamp unit needs assembling.



Below: Careful masking before spraying.



Below: LED light strips in place and painting done.



Below: Original MR2 seats retrimmed.



Above: Door cards also now trimmed to match seats.



Above: Meanwhile, DNA's bodyshop busy priming car.



Above: Almost finished...



Above: Rolled out of the bodyshop and ready to go home.



Above: The rebuild can begin. Interior being refitted.



Above: 'Sticks' help to hold grille while it is bonded in place.

Paul began cutting away some of the panel and replacing the structure with aluminium to mimic the Ferrari's engine cradle. The end result was spectacular, but would move on again after the conversion to V6 power that would come after the car hit the road.

If work on the engine cover suggests Paul was obsessed with replication of the Ferrari that inspired the DNA, that would be wrong. There are areas of the car that he wasn't worried about at all in terms of authenticity... what he was far more concerned with was the attention to detail and making sure that what he

ended up with would be practical.

Paul's car initially went back on the road with the original Toyota engine and a largely standard (save the leather covered seats and door cards) interior. But it didn't stay that way for long. Although he'd not considered an engine swap when he began the build (hence buying a low mileage car) he had been aware of the V6 conversion offered by Woodsport in County Durham.

As he began driving the DNA it was the sound rather than the performance that kept nagging at him. And in the end it was wife Jules who suggested he should go

for it. Woodsport offers a complete conversion service, from sourcing and rebuilding the 3.0-litre Camry V6 engine, mating it to a MR2 MK2 5-speed gearbox and then installing into the car. The company offers a number of further upgrades and the standard of workmanship is hard to fault. All in, it cost around £6000, but Paul has no regrets. He reports the sound at start up is superb, and the significant performance hike is a welcome benefit that he's enjoying.

The taller V6 meant yet more tweaks to the DNA engine cover, while the different angle of the driveshafts meant



Below: Grilles look good. Dummy engine convincing.



Below: Interior coming together now. Dash standard, for now.



Below: Completed front headlights now in place.



Below: Interior now complete.



Below: Original roof frame retained for new DNA hood...



Below: Rear buttress 'structure' in place...



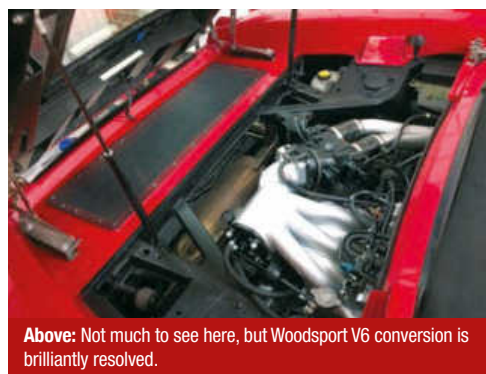
Above: Paul fitted hood with the help of his dad.



Above: Engine cover off for yet more updates...



Above: ...new version ever more visually convincing.



Above: Not much to see here, but Woodport V6 conversion is brilliantly resolved.



Above: Upgrading the suspension units.



Above: Cardboard mock-up of centre tunnel top...

Useful contacts

Kit: DNA Automotive, Redditch, Worcestershire. T: 0121 326 8800.

E: info@dnaautomotive.com W: www.dnaautomotive.com

V6 engine conversion: Woodport, Tursdale, County Durham

W: www.woodport.org

Trim: Kustom Interiors, Wickford, Essex. T: 01268 207508.

W: www.kustominteriors-wickford.co.uk

a move to adjustable aftermarket suspension struts and springs was on the cards. Raising the ride height at the back slightly and having greater control of the ride firmness has been the benefit from installing D2 Racing units.

Since then Paul has also addressed

the previously standard MR2 interior. Most significantly, this has meant fitting DNA's dash top conversion, and also developing his own lower dash mods and centre tunnel moulding. It's been a significant and utterly successful transformation that really sets the rest of all his hard work off to a treat.

Paul's meticulous nature has meant that he kept a complete spreadsheet of time spent on the build and what everything has cost. To get the car on the road initially required 466 hours and around £24,000 including the cost of the donor car (a figure he'd budgeted for from the start). Since

then he reckons there have been an additional 200 hours spent on the car, plus the cost of the Woodport engine, dash conversion and suspension upgrades.

To see whether it's all been worthwhile, make sure you don't miss part two of this story, with the most spectacular DNA 4Thirty we've ever come across. ■

Don't miss part two in the
February 2016 issue.
On sale from Friday 8 January



Below: ...then made in wood...



Below: ...before being trimmed in leather.



Below: Lower centre console being removed...



Below: ...as part of major dash revamp...



Below: DNA's new dash cover panel trimmed...



Below: ...and in place on the car. Job done.



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Our Cars

Lots of progress on both the buggy and Nova from James, while John is taking advantage of the winter months to upgrade the Fugitive to electric fuel injection. Both Stent and Wilkins remain quiet on progress with their cars (largely because there has been none...).



James Horsley

PROJECTS

Apal buggy and Nova

THIS MONTH

The buggy and Nova are both absent, but things are still progressing....

I have never had a tidier garage! As I write this, both cars are away which has given me the chance to have a decent clear-out.

As reported last month, the buggy is finally getting a roof made. This is nearly complete, with decisions being made on the side window design and the type of rear window opening.

The plan is to have a set-up that can be completely wind and water tight, or by having removable side and rear window panels reduce it to just a sun shade roof/top. Having run similar set-ups on previous buggys, I have learnt that removable side panels are useless unless a rear window section can be removed or opened. This allows air to pass through and prevents flapping of the roof. A zip-out rear window section can also be useful to let out condensation if the weather is challenging! The initial top roof section is looking great in mohair, and hopefully will be completed in another few days.

The Nova remains at Fellows Speed Shop for engine fitting and a few more jobs have been passed their way. Whilst I had prepared a dashboard and steering support, and refitted the dash, I had never joined up the steering box to the column. This is now being done by them, though an afternoon was spent head-scratching with the team to get a good result. Being somewhat



Above: James's garage has never looked so empty!

long in the leg and having size 11 feet, it is a challenge to squeeze me into the driving position – the original Nova build manual talks about modifications being needed for those above 5ft 8in – I am 6ft 3in!

My dashboard for this Nova is much more intact than my previous version, and that initially caused some of the head-scratching. To get the column tight under the dash and away from legroom, supports need to run as high as possible. Frustratingly, one of my support bar cross braces was in just the wrong place, so had to be moved. We then had to be brave and cut a section away from the dash under the driver's pod to help accommodate the outer column. Thanks must go to Ces, the owner of my previous Nova, for sending me many pictures of my last set-up so we could try to recreate it. Also many measurements have been taken from his car to help with the build.



Above: Buggy's hood is coming on. Windows next!

Other progress continues despite not having the Nova in the garage. The collection of hinge parts shown last month have now been refurbished, thanks again to Neil Dunne Welding. Some holes were welded up, new pins fitted to locate rose-joints on the hydraulic rams (these help to deal with any twisting forces on the hinges) and bushes were pressed out and then refitted after powder coating. For 30 or 40-year-old parts, they now look pretty good.

Finally, another visit to Andy Westgate to collect the final Nova part that had been with him for fibreglass repairs. This time the hard-to-source rear louvre section.

This had a pretty awful '70s rubberised black coating over it which took a lot of effort to remove. It then revealed many stress cracks and a lot of damage. Andy has repaired the damage and grafted in a support bar



Below: Nova in air-cooled company at Fellows.



Below: Dash cut to accommodate steering column.



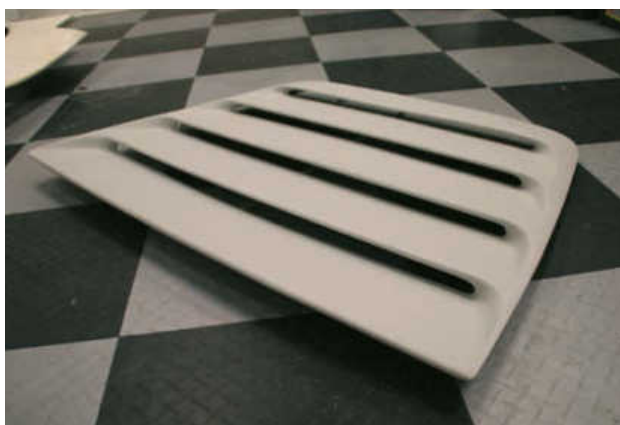
Below: Hinge arm – before and after!



Below: The full hinge assembly parts back from the powdercoaters.



Below: One hinge assembly back together.



Above: Cracks and other damage in the louvres now repaired by Westgate.



Above: Support bar in centre will prevent the louvres sagging.

(part of an aircraft wing support) down the middle of the panel to help keep it rigid. Ultimately this will be finished in satin black, but this will wait until all other parts are ready to go back to the paintshop. I would like to have the underside of the canopy, bonnet and engine lid in satin black, as well as

the rear window 'tunnel' and the rear light bar. I continue to be amazed at how much bodywork and painting is required on a Nova. My next kit has to have a new 'shell'!

Finally, back to the garage clear-out I have two Nova bonnets and possibly two hydraulic pumps going spare. If

you are interested head over to www.euro-nova.co.uk to say hi and get in touch. My final garage job to complete before either car returns is to fix the garage door – the motor has decided to give up the ghost so currently I cannot open it at all. Looks like the buggy roof was a wise investment after all!



John Dickens

PROJECT
UVA Fugitive

THIS MONTH
John takes advantage of the Fugitive's winter hibernation.



It has been four weeks since my last update, and the spare Wolfrace wheels didn't sell on eBay so they are still taking up garage space. It's no real hardship, though, as they still fit my car so they can be used as spares.

Now that the colder, wetter weather is here, the car is unlikely to see any more use for a while so I've started on the EFI conversion in earnest. Late last year, I wrote an article about bike throttle body conversions with help from DanST Engineering. Their work was very impressive, so I decided to use them to carry out the conversion work on my own inlet manifolds. I have finalised my design around individual

injectors for each cylinder mounted in OEM Volkswagen inlet manifolds. The injectors are from a Ford Fiesta 1.2 and I bought a set of four fuel injector bungs from Trigger Wheels. The actual conversion, which involves drilling the manifolds and welding in the injector bungs, was the part which I passed on to DanST, although I did do a little preparatory work by making up a jig to hold the injector bungs parallel to each other and with the correct 35mm spacing whilst they are being welded (Fig 4). DanST are also making up a pair of fuel rails with mountings to fit over and secure the injectors in the manifolds.

Ash, true to his word, completed

the work on my pulley and posted it back to me from America this week. I specifically bought a genuine VW crank pulley rather than a pattern part for this conversion as I hoped that it would be of higher quality but, apparently, when spun up in Ash's lathe, it was still not exactly true. After sorting out the pulley itself Ash turned up a central shaft to accurately locate and clamp the trigger wheel onto the pulley then tig welded the two parts together. He then machined away almost all of the trigger wheel material to leave just the toothed perimeter. Finally, he corrected any slight run out by machining a tiny amount of material from the tops of the teeth.

Below: The standard VW Beetle twin port manifolds.



Below: Fiesta injectors have a low enough flow rate.



Below: Injector bungs bought from Trigger Wheels.



Below: Jig to align the injector bungs while welding.



Below: Ash fitted 36-1 trigger wheel to crank pulley.



Below: Welded at four points around circumference.



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Wheel Offsets

Puzzled by deciding what wheel offset you need for your kit car? John Dickens demystifies the measurements you need to take.

Pressed steel wheels are still found on many mass produced vehicles but alloy wheels are becoming more common even on standard family saloons. Often, this is purely for cosmetic appearance but lighter alloy wheels do offer some performance advantages.

The vast majority of kit cars are fitted with alloy wheels for the reasons described above, but there are other considerations. If you choose to fit upgraded brakes, it is possible that you will need larger diameter wheel rims in order to clear the bigger discs or calipers. If you are building a panel kit replica of a production car, you will probably find that the original wheel fitment no longer fills the wider bodywork or arches so a taller and/or wider wheel/tyre combination will be needed.

If you are considering a set of alternative wheels for your car, there are a number of dimensions which must be taken into account.

DIAMETER

This is not measured at the extreme outer edge of the rim but in the area where the tyre beading seats. If you wish to maintain the same overall diameter and rolling radius when changing wheel and tyre sizes, you also need to consider the profile of the tyres. For example, changing from 14in to 17in rims would need a switch from 185/70x14 to 185/50x17 tyres. This would keep the ride height, gearing and speedometer calibration correct. If you wish to increase the overall diameter of the wheel and tyre, this is less of a consideration.

RIM WIDTH

This is measured between the inner walls of the wheel rim. Normally when aftermarket wheels are fitted they are wider than the originals in order to allow the use of wider high performance tyres. For any given rim width, there is a range of acceptable wheel and tyre fitments

so, for example, a 6in wide rim with a 14in diameter rim can accept tyre widths from 165 to 215, although the ideal fitments will be somewhere near the middle of this range of sizes. Page four of The Wheel And Tyre Bible (www.carbibles.com/tyre_bible_pg4.html) is a good source of information here.

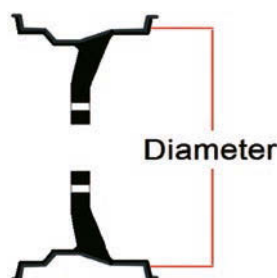
PITCH CIRCLE DIAMETER (PCD)

This is the standard method of measuring the spacing of the wheel fixing studs or bolts. It is the diameter of a circle drawn through the centre of all the studs. There is no standard PCD. Different manufacturers use different dimensions and there may be three, four or five studs or bolts holding the wheel in place. Some popular examples....

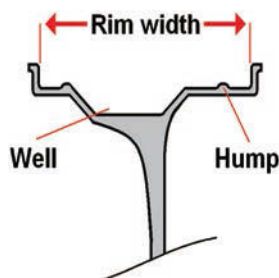
Ford Sierra	4 x 108mm
Mazda MX-5	4 x 100mm
Toyota MR2	5 x 114mm
Classic Mini	4 x 4in
Triumph Herald	4 x 3.75in

You must ensure that your wheels

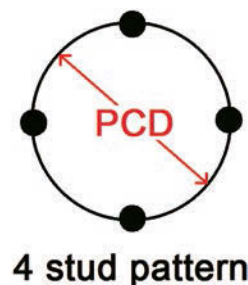
Below: Wheel diameter is measured at the inner rim.



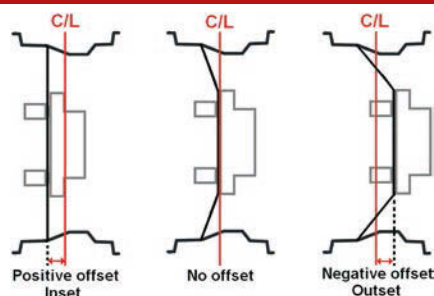
Below: Rim width is measured between the inner rim walls.



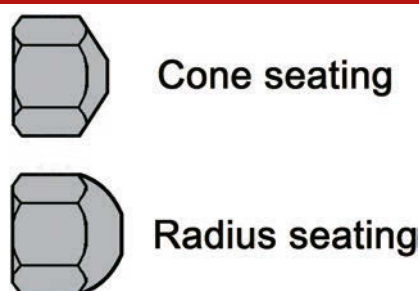
Below: Pitch circle diameter of a 4-stud fixing wheel or hub.



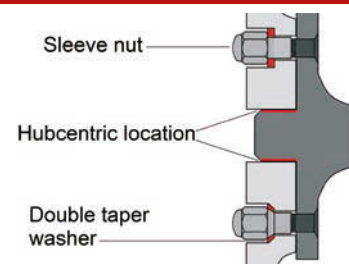
Below: Wheel offset can be positive, zero or negative.



Below: Nuts for steel wheels are shaped for wheel location.



Below: Sleeve nuts or hubcentric wheels are alternative locating systems.



Below: The straight edge must rest on the rim not the tyre.



Below: Dimension a, from inner rim to wheel mounting face.



Below: Any flat rigid material can be used here.

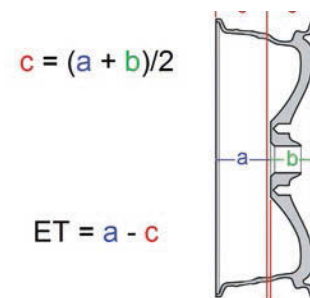




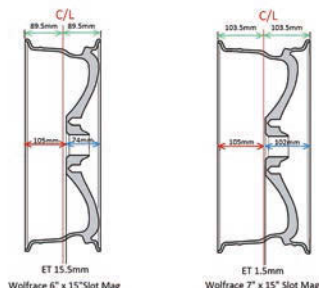
Above: Clamp material in place on the wheel mounting face.



Above: Dimension *b*, from wheel mounting face to outer rim.



Above: Using these dimensions you can calculate the ET.



Above: Dimensions for John's alternative Wolftrace Slot alloys.



Above: A thin (5mm) wheel spacer, aka a shim spacer.



Above: Spacers are available for hubcentric wheels too.

have the correct PCD for your car. It may be physically possible to fit 100mm PCD wheels onto a Classic Mini 4in (101.6mm) PCD hub, but they may not centre correctly and the securing studs will definitely have undesirable bending loads applied to them.

OFFSET

The centre line of the wheel rim does not normally line up with the wheel mounting face. It is normally slightly offset. The offset is described by the term ET, which is from the German word 'Einpresstiefe' translated as 'insertion depth'. If the wheel is offset away from the car's centre line, it is known as negative offset or outset, and if it is in the opposite direction it is called positive offset or inset.

WHEEL LOCATION

Pressed steel wheels are normally located by their fixing nuts or bolts. The wheels are formed with conical or radiused seats and the wheel nuts have matching contours so that as the nuts are tightened they automatically centre the wheel on the hub.

This system can also be used to locate alloy wheels, although steel washers or inserts must be used to prevent 'galling' of the soft alloy as the nuts are tightened. An alternative system for alloy wheels is to use sleeve nuts which extend through the wheel to form a positive location. These may have flat or tapered washers to protect and locate the wheel. Whichever system is used, you must ensure that you have the correct wheel nut form for your wheels with the correct thread for your hubs or studs. Modern cars tend not to use the nuts or bolts to centre the wheel.

Instead they use hubcentric mounting in which a raised spigot on the hub locates in an accurately machined bore in the wheel. Once again, you must make sure that any aftermarket wheels will locate correctly on the machined spigot on your wheel hubs.

Obviously, with all these factors to consider, it is important to know exactly what you want before you go shopping for wheels. As a starting point, I suggest that you measure up the wheels you already have so that you know their overall width, diameter, PCD and ET dimensions. The first two are usually stamped or cast into the wheel, and measuring the PCD is easy enough. The ET dimension may also be marked on the rim, but if not then measuring the wheel offset is done as follows:

- 1 Find or cut a straight piece of metal which spans the wheel rim but not the tyre.
- 2 Place this straight edge across the inner wheel rim and measure from the mounting face to the straight edge. Call

this dimension *a*.

- 3 Clamp or hold a flat piece of material across the rear of the centre hole in the wheel, then put your straight edge across the outer wheel rim and measure from the clamped material to the straight edge. Call this dimension *b*.

- 4 Find the centre line by adding dimensions *a* and *b* then dividing by 2. Call this dimension *c*.

$$c = (a + b) / 2$$

- 5 To find the wheel offset (ET), subtract dimension *c* from dimension *a*.

$$ET = a - c$$

- 6 If the value is positive, the wheel has inset. If it is negative, the wheel has outset.

Once you have all the dimensions for your existing wheels, fit them back on the car and measure all the clearances around the wheel. Swing them from lock to lock to check how the clearances alter with steering movement. Now work out how much wider or taller you want your new wheels to be in order to fit the car correctly. Armed with this

Below: Many bodykits need wheel spacers. Our project Bertini GT25 did not.



information you should be able to work out all the dimensions you need for your new wheels.

When making your choice, you should try to keep the ET dimension as close to standard as possible. Modern vehicles tend to use wheels with a relatively large inset as this gives stable steering under variable grip conditions (negative scrub steering geometry), but it also makes it more difficult to fit wider wheels as they can foul the suspension and bodywork at full steering lock. Decreasing the inset or increasing the outset will increase stress on wheel bearings and suspension components. At the front of the car, it can reduce steering feel, excessive kickback and instability under braking.

For purely cosmetic reasons, I have recently fitted wider wheels to the rear of my UVA and I carried out the steps described above to sort out the required fitments. Unusually, these period Wolfrace wheels accomplished the increase from 6in x 15in to 7in x 15in by adding all the extra width to the outer rim. This reduced the ET dimension from 15.5mm to 1.5mm. This is acceptable on a rear wheel, but if fitted to the front of the car the small offset could well produce a steering system with very little feel or feedback.

Manufacturers do not produce an infinite number of wheel sizes. It may be that the diameter or width you need is simply not available with the PCD or offset that your car requires. If this is the case, all is not lost. Wheel spacers can be used to increase the ET dimension if the available wheels have too much inset. Spacers are available from around 5mm thick to 30mm thick, but personally I would regard 25mm

NEXT MONTH

Enter our competition to win a set of 15in Rota alloy wheels.



Below: John's Fugitive has recently had wider wheels fitted for cosmetic reasons.

as the safe limit. They can be plain or hubcentric. If you choose to fit spacers, you will also need longer wheel bolts or studs too. Remember, though, that fitting any spacer will reduce the inset or increase the outset by the thickness of the spacer, so be careful not to stray too far away from the manufacturer's figure. A third type of spacer is the bolt-on. This is fitted using the original studs or bolts and has a second set of fasteners to attach the wheel. I have never used these as I do not really trust them, but many people are quite happy with them. If you are really having trouble finding suitable wheels, it is possible to change the PCD of your car by using adaptors. These are bolt-on spacers which have different PCD dimensions for the two sets of fasteners. Using adaptors, it is even possible to convert from four to five-stud mounting or vice versa. Unfortunately, in order to accommodate the mounting nuts or bolts, these

adaptors tend to be available in only the thicker versions.

When you have finally purchased your new wheels and fittings, mount them on the car, without tyres, and check for any fouling on the brakes, suspension or bodywork over the full range of steering and suspension movement. If there is a problem at this point it may still be possible to exchange them. If all is well, get the tyres mounted and do the same checks all over again.

Finally, remember that any change in overall diameter of the wheels will mean that your speedometer will no longer read correctly and will need recalibrating. Depending on the type of instrument you are using, this may be just a case of inserting one value in place of another in a digital system, or the use of a professional service to recalibrate an analogue instrument. ■

Below: You will need longer wheel bolts...



Below: ...if you use wheels spacers...



Below: ...or studs, depending on the fitment.



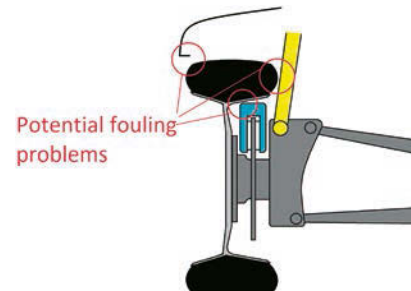
Below: Bolt-on spacers can use the standard studs or bolts.



Below: Adaptors can be used to alter the PCD of the hub.



Below: Check any new wheel/tyre combination for fouling.



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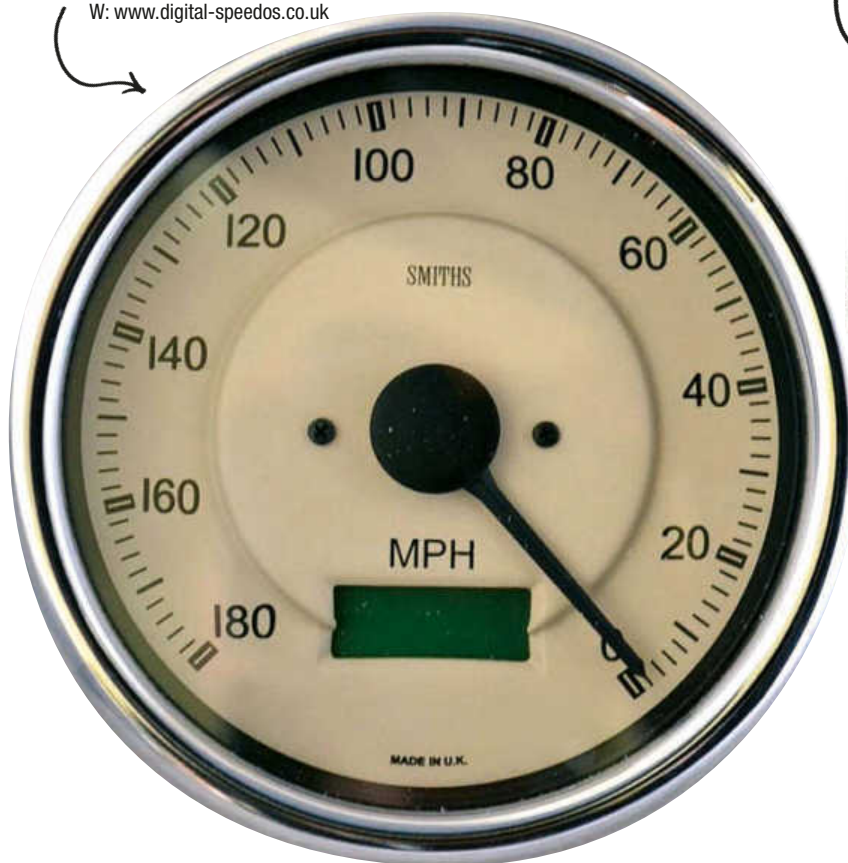


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Tom Hyland

PROJECT

Raw Striker

AGE

42

OCCUPATION

Software development manager

PROJECT START

January 2012

There was nothing much to report last time round, and the pace has not picked up much over the past couple of months. However, when a friend came over to visit I took the opportunity of an extra pair of hands to get the engine in the car. This was good for several reasons: firstly, it feels more like a car! Secondly, I can start plumbing in the fuel lines and all of the cooling pipework; thirdly, it is one of the weightier items in the car, so when I set up the suspension, I am hoping that it will all be about right for when the car is fully built. I believe I need to do the suspension early in the build so that the wheel arches can be lined up correctly when fitting the bodywork. The other good reason for getting the engine in the car is that it frees up some much needed space in the garage!

Another job I achieved was to redrill the bottom bracket for the fuel tank. This needed redoing because after adding the rubber insulation, the tank sat too high. I also removed the excess metal from either end, and cut a bigger hole for the handbrake cables in the centre. Finally, I painted the bracket black rather than leaving it bare aluminium – that took up some precious time in the garage that could have been spent doing something else, but it felt like it finishes off a job properly, which is important to me.

So where next? To be honest, I am not sure. I need to get an exhaust manifold and system made, and that is not a cheap job, so I am saving up the pennies for that. I think I am going to need to get at least a manifold before I can start the engine, so I don't really feel like doing all of the other engine based work until I have it. The other job I am toying with getting done is fitting all of the bodywork. At the moment, all of the bodywork is stored offsite, and I am struggling to visualise where I can put pipework etc without it. As I have already mentioned I don't have much (any!) space in the garage, so the only place to keep the bodywork will be on the car itself.

I have to admit I have been having major doubts about my ability to complete this build over the past few months. What progress I make is painfully slow and very sporadic, and the choice of a bike engine presents some serious challenges: emissions and noise regulations, gearchange mechanisms, and the need for an



Above: Fuel tank bracket cut and repainted. Time-consuming for a small job, but worth the effort.

alternative reversing mechanism to name but a few.

It is a non-standard build, so things like exhaust systems need to be custom-made rather than purchased from Raw directly. These all cause me to pause for thought nearly every time I work on the car, which slows me down even more! I have been considering switching to a car engine, but cannot face selling what I have purchased for the bike engine build for what will likely be a significant loss. However, whenever I hear a bike going past at full revs, or watch a YouTube video of a bike engine car, I am re-assured that a bike engine is the right choice for me if (and it is a very big if!) I can get it all to work.



Above right: Tom roped in a friend to help lower the engine into place. **Below:** A milestone achieved.



Next issue

JOHN CLEMENTS

Tiger Supercat

ANDY GREEN

Healy Enigma

IAN JACKSON

GKD Legend

ROSS MAYNARD

Tiger Super Six

ED MORTON

Nova

JON PAGE

GBS Zero



Stuart Bruce-Jones

PROJECT
AGM WLR

AGE
30

OCCUPATION
Aerospace project manager

PROJECT START
August 2010

Yet another busy month ironing out a few issues. The body test-fit revealed that the throttle linkage bar caused a clearance issue with the bonnet and therefore I have had a set of custom throttle cables made to suit my engine. I'm now faced with the choice of adding an idle control valve or feathering the throttle until the engine has warmed up – not a show-stopper.

The coolant pipes are now finished.

Below: Coolant pipes fitted. Header tank may move.



If there is enough room for the header tank up front, I'm tempted to relocate it. It was pointed out to me that the possibility exists that if the header cap fails then whoever is sitting in the cockpit may end up with scolded legs. Not an appealing thought.

The alternator is now in position and mounted, the pulley just needed an adapter spacer. I'm now waiting on a belt to arrive and then that's another job I can cross off the list and, more

Below: Alternator positioned with adapter for pulley.



importantly, the car will run off its own power, not a jump pack.

Over the next month, I will need to change the oil system for a dry sump set-up, a large expenditure that wasn't in the budget but the sump sits far too low for comfort. Also, some tuning has revealed that I have two failed injectors on one bank.

A big thank you to Jon from Station Motorsport (Market Harborough) for his help and custom fabrication.

Below: A lot of engine in a little car!



Jason Burrage

PROJECT
DeHavilland DVT GTS V6

AGE
44

OCCUPATION
Project manager

PROJECT START
November 2014

A lot has happened since my last report, including the twins' first birthday, which made me realise just how fast the past year has gone. Another 17 and they'll be off to university! As for the car, I've now completed the wiring loom installation, except for the boot connections and doors. In the engine bay, I cut off the old MG Rover connectors, spent a few hours matching the colours with the wiring diagrams and labelled each wire ready for use with the new engine ECU when I get it.

The engine is getting ever-closer to being fired up. Just a week ago the throttle bodies arrived from QED Motorsport. They're the only company I found that does a throttle body setup for the Rover KV6 engine. Alex at QED was exceptionally helpful, sending me pictures and measurements to ensure they'd fit under the Dino's engine cover, prior to me placing the order. He then built up my chosen configuration on their display engine to check everything fitted before being shipped. Great service that I can't recommend highly enough.

I've also been making good progress with the bodywork. I've fitted the internal sill covers over the side chassis rails. These have been bonded, riveted and fibreglassed into place, to ensure a solid finish with no rattles or squeaks on the road. The cavity behind has been filled with expanding foam too to create

a more rigid structure and prevent any panel vibration or drumming noise. I always give panels and parts a knock, tap and wriggle to see if I can hear

Below: Trial fit of the throttle bodies.



any unwanted noises and, in this case, discovered that the outer sill panels make a noise when knocked with my knuckles. These were fitted by

Below: Aluminium plate to secure window frame.



Below: Nearside window frame being fitted to the door.



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"The original Dino uses metal latching stays for bonnet, boot and engine cover, but while a replica ought to use them for authenticity, I'm not a fan"



Above: Extended engine cover allows latch to clear engine, and also allows space for the...



Above: ...seventh vent to be cut on each side.

DeHavilland and it looks like they just need some extra rivets to hold them in place more firmly. Some polyurethane sealant will also help bond the joint where they meet the floor panel.

Wiper spindle holes have been finished so the spindles fit correctly, and the spindle carrier modified accordingly. These have been connected to the wiper motor with rosejoints, but initial attempts to test the movement failed. After some head-scratching and voltage checks, I stripped the motor and discovered it had fallen apart inside. Wipers are one thing I never even thought to test on the donor car, so perhaps there's a lesson to learn here. A new motor was purchased from our favourite auction site and the wipers literally swept into life.

The original Dino uses metal latching

stays for bonnet, boot and engine cover, but while a replica ought to use them for authenticity, I'm not a fan for two reasons. 1) Having used them before, I've seen people try to force the panel closed, not realising you have to release the latch. 2) They're a great source of rattles.

Instead, I've chosen to use gas struts on all three opening panels. I've bonded 8mm thick aluminium onto the back of the fibreglass. This has some M4 holes drilled and tapped in it to provide a solid, flat mounting point for the strut ends. Using adjustable gas struts is important, as they allow the force to be adjusted correctly. To do this, I fitted one strut and adjust the pressure so it only just supports the panel when fully open. I then used bathroom scales to measure the strut's force and adjust

the second strut to match. With both struts set the same, the panel is nicely supported without being forced out of line. I've found this approach also results in a nice closing force, that doesn't put undue strain on the fibreglass.

I must admit, I have something of a fetish for thick aluminium plate at the moment. I'm finding many uses for it as it's easy to cut, easy to drill and tap, very light, very rigid and spreads the load across fibreglass nicely. I've therefore used it to create hinge spacers for the boot lid, and to provide sturdy, threaded mounting points in the doors for the window frames.

When fitting the boot lid and engine cover, I made one modification. I shortened the boot lid and bonded the cut off section to the rear of the engine cover to extend it. This has provided several benefits...

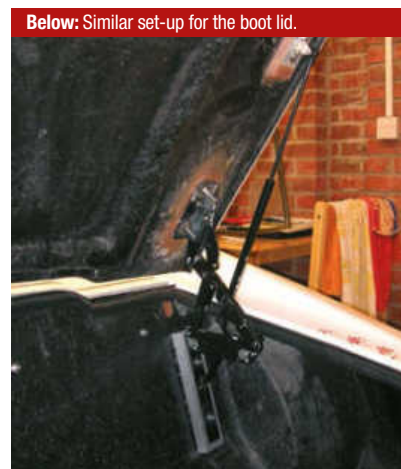
- The action of the cantilever hinges resulted in the boot lid binding on the engine cover. By reducing the overhang behind the hinges, the arc of movement improved.
- I've been able to put the engine cover catch in a location that clears the rear rocker cover on the V6 engine.
- The original 246 GTS had seven vents in the engine cover but, as the DeHavilland moulds were taken from a 206, the kit only has 6 vents in the engine cover. The length I've added provides space for a seventh vent to be cut when the car goes off to the body shop for paint.

With the engine cover fitted, it was time to fit some latches to the bonnet. I'd already used the original MG TF bonnet catch and pin for the engine cover, so had to find an alternative solution for the bonnet. DeHavilland normally have just one catch on the bonnet. While two might be less authentic, they hold the panel more securely for a better shut line and less panel vibration. I therefore chose to use twin catches and pins from a Rover 75, which I managed to source second-hand, complete with twin cables and cable pull.

Once again, thick aluminium plates were bonded to the underside of the bonnet with threaded holes for screwing



Below: Struts and pins both mounted on ali plates.



Below: Similar set-up for the boot lid.



Below: Rover 75 bonnet hinges fitted.

in and adjusting the bonnet pins. I'm really pleased as I have the bonnet and engine cover opening and closing with a production car feel. I have yet to fit the boot lock, but haven't quite decided how best to do this.

Work has also started on fitting the window frames to the doors. These consist of two parts – the window frame itself, and a carrier that the frame screws to. These parts arrived just a few weeks ago and I found the carrier didn't fit as nicely as I liked. I therefore cut it into two sections and cut off the mounting tabs. With the window frame securely clamped in place, the carrier was reconstructed around it inside the door and the mounting tabs welded back on.

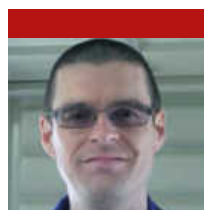
It now only fits in one place and doesn't require any spacers or adjustment. The window frame slides into place nicely and bolts accurately in position. I'm not a fan of self-tapping screws, so all fixings are threaded and bolted.

It's a time-consuming process, and has taken a few weekends to do just one door, but these are important areas to focus on if the car is to feel and sound well built.

And now onto something I'm really looking forward to as I type this on a Sunday evening. Back in May, I decided it was time to change my Jaguar XJ diesel. As lovely as it was, I came to realise why I don't like diesels – however well-developed they are, they just can't

compare to the response and soundtrack of a petrol engine. I test drove a few different cars, but then a friend mentioned Tesla. They sound good on paper, but I was blown away by the test drive, so promptly ordered a P85D. It's been a long wait, but I collect it on Tuesday. Sure it won't have the soundtrack of a V8, but the way they take off the line is simply staggering and very addictive.

This isn't an advert for Tesla, so I'll get to the point. It's made me realise that we can't ignore the importance of electric cars as they are undoubtedly the future (Mr Fusion powered DeLorean's aside). Will they also become an important part of our scene one day? I most definitely think so, and hope so...



Chris Haysom

PROJECT
RoadRunner SR2

AGE
47

OCCUPATION
Vineyard worker

PROJECT START
January 2014

I take my hat off to anyone building a kit car who also has kids! How do you find the time to do any work on the car? We don't have children and I struggle to get out in the garage to work on the car. As always, I am envious of the build progress of my fellow reporters.

Another spell of lean times in the garage, I'm afraid, with the harvest at my new job taking over three of my weekends; the 4am starts and 8pm finishes on a number of days have taken their toll!

So have I done anything on the car? The front uprights are all painted, so I decided to offer them up and get them temporarily attached, which is when I had my first major 'd'oh!' moment. What do I need to attach the ends of the steering rack to the upright? I went through all my boxes of kit parts – nothing. I then checked all my photos I had taken at various shows and could see what I needed but couldn't find the parts. An email to Mike at RoadRunner explaining my confusion was replied to quickly with 'track rod ends' – what an idiot! Now duly fitted.

Work is continuing with the refurbishment of the engine, with each area photographed before a part is removed just to be sure. The only slight hiccup so far has been the removal of the lower timing belt cover where the two lower bolts were rusted solid and sheared off, leaving nothing to grip onto for removal. The only answer was drill out the broken bits. As this lower cover has the timing marks on it, I will need to make sure it goes back in the right place.

To this end, I have Helicoil type



Above: Engine components ready to be cleaned. **Below:** This sign applies to all visitors – including Chris's wife Vicky!

inserts to fit which will allow some new studs to be installed. The area around the fixing holes on the cover has also been affected by heat and has cracked, leaving parts of the hole surround missing. The price of a new lower cover is about £55, so I have decided to do a repair job. Not sure how yet, but I can think of better ways of spending £55! It seems this is a fairly common problem with the covers as all the second-hand parts I have found have comments stating the same.

I've been getting busy with the wire

Below: Front upright painted.



Below: Rusty timing belt cover bolts sheared off.



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brushes on the engine block to remove as much surface rust as possible before a final clean and degrease for painting.

So, yes, I have done some work, just not as much as I had hoped. It seems

that I am taking an age on the engine and I'm not even doing a complete rebuild, but I have decided to make sure all the service items are replaced to ensure, hopefully, a reasonably

trouble-free time with the car.

As ever, Vicky is providing the lighter side of kit car ownership with an amusing sign for the garage. I have pointed out that it does also include her!



Vivienne Lodge

PROJECT
Westfield SE

AGE
56

OCCUPATION
Retired driving instructor

PROJECT START
March 2015

Turning the page in my hefty Westfield instruction manual, I was faced with instructions for fixing the handbrake into place. The brake system on my Westfield has the upgraded four pot calipers and the uprights came with these already fitted. Very handy indeed!

I started off by locating and taking the handbrake handle out of the box, and it looks relatively easy to bolt onto the chassis frame within the cabin of the car. Before doing so though, I had to open up the holes on the balance bar by placing the bar into a vice and drilling them so that they were eventually large enough to take the cable nipple. Then standing precariously on stepladders, I reached into the car and, whilst leaning at a very jaunty angle, successfully managed to secure the handle into place. All without me toppling off into the car itself!

Having located the two cables for the handbrake, I proceeded to thread them from the back of the car, up and over the wishbones, under the tank, over the differential and finally through the bulkhead into the cabin. First, I covered them with protective sheathing where they might rub on the chassis. All this would have been much easier if it had been done before fitting the tank, as the cables were quite inflexible.

I attached one end of each cable to a rear brake caliper via a ferrule pocket and the other ends to the balance bar on the handbrake. I finished by making some fine adjustments which allowed the handbrake to be applied using three sharp clicks.

I moved next to the fitting of the propshaft. When I start by saying something looks quite easy, it is usually a huge mistake as it always turns out not so! The propshaft was found and identified, and the specific bolts were coated in thread lock. Ready to go. Would the flipping things go in? Would they hell as like! So I had to wait for a special size tap to arrive from Westfield in order to clear the threads on the differential. The last thing I needed was to wreck said thread and have to remove all the fuel system, to



Above: Handbrake was first job this month.

then take out the differential and all that goes with it. You get the drift.

So, eventually all tapped (including myself I feel!), I threaded the propshaft through the tunnel in the car and rested it on the cross struts, leaving the protective mesh on the gearbox end. I located the four bolts, cleaned and recoated them with thread lock and placed them to just finger tight to start with. Each bolt had to be alternatively and gradually tightened. Finally, I managed, with a lot of fiddling in a very restrictive space, to torque each bolt. To do this, the handbrake had to be applied as each bolt was nipped up and then released in order to turn the propshaft ready to access the next bolt. Done!

A sort of 'inbetweeny' type job next which is quick, easy and therefore makes you feel like things are moving on, even if it still seems a slow process came next: battery tray and battery fitment. I drilled four holes in the aluminium panel on the chassis to



Above: Threading cables was tricky with fuel tank in place. **Below:** Caliper accepted handbrake cable.



align with the holes on the battery tray. Then I applied a liberal amount of silicone sealant. The tray was glued into position with the silicon and reinforced with rivets. This was so awkward as the small space proved really difficult to get into with the rivet gun.

The battery was popped onto the tray and after lining the mounting strap with foam I attached it so that the battery was as snug as a bug in a rug. Job done! Over the next weeks I will be looking to attempt and hopefully complete the steering and fit the front uprights and front suspension. ■

Below: Battery and tray fitment is an 'inbetweeny' job that makes it feel like progress is being made.



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Between The Lines

A home for everything
that didn't make it into the
main part of the mag.

All at sea in a Dutton Surf

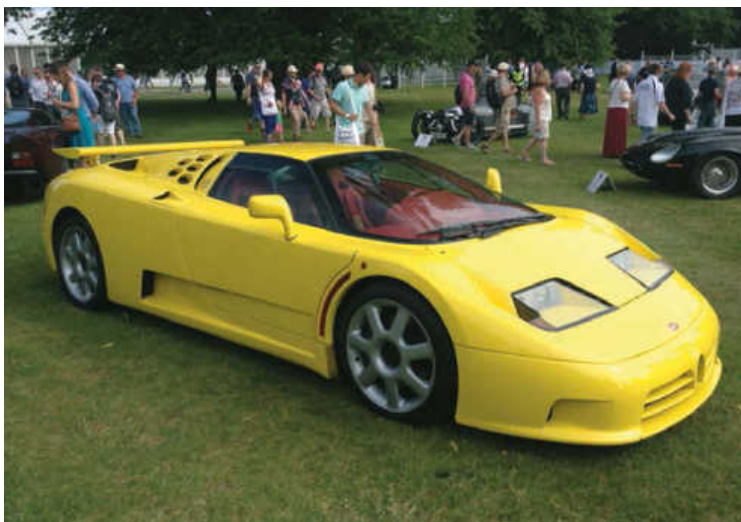
You'd think that if there's anyone in the world comfortable with the idea of being in a car in a river, it would be Tim Dutton – the longest-running maker of amphibious vehicles.

But judging by this photo, even

he can have a nail-biting time if he's at the mercy of a journalist driver. The very best thing about this photo, though, is that Richard Heseltine appears to be entirely oblivious to the japey going on right next to him...



The replicas you want



Our feature last month on the replicas we'd like to see elicited quite a few responses from readers who would also like to see their favourite cars available in kit form.

Supercars obviously featured quite highly, with calls for Bugatti EB110 and Vector W8 both featuring. Like Stent's shout for the Batman Tumbler,

there were other cars from fiction suggested – this time, Homer Simpson's car and KITT from *Knightrider*.

Classic Fords were another recurring theme. That might sound surprising at first, but there are of course already a couple of Mk1 Escort replicas on the market. Can you see the market for Mk2 Escort and Mk1

Race of Remembrance



OK, this isn't a kit car event, but it's worthy of a mention purely because it's in aid of such a good cause. Mission Motorsport's second annual Race of Remembrance took place last month, a 1000km endurance race at a very rainy and windswept Anglesey.

Mission Motorsport is the charity set up to get ex-servicemen into the motorsport industry, and the race is one of its headline events. Editor Wilkins was racing in one of two Skuzzle Motorsport prepared MX-5s.

There's no event like it. The first part of the race took place between 4pm and 7pm on the Saturday, before the cars go into *parc fermé* over night. The race then resumes on the Sunday morning, pausing for a remembrance service made

all the more moving by the presence of those whose lives have been touched by conflict.

The race then resumes until the first car covers 1000km – although in the event it was cut slightly short when the conditions became so bad that the marshal posts lost visual contact with each other.

Despite dreadful weather and four drivers who had never met before the weekend, 'our' MX-5 ran almost completely faultlessly (a loose HT lead being the only problem) and came home third in class. Excellent preparation by the Skuzzle team and consistent lapping were the secret.

A great team effort, an excellent weekend's motorsport and a great cause made this one of the most memorable weekend's racing you could hope for.



Capri replicas?

Oh, and we're currently following up a lead on one of our suggestions

– a Ford GT90 replica – that's been built on a one-off basis. Hopefully more on that soon!

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Our essential guide to getting the most from your kit car this year

Contents...

2 - FINISH IT

Whether you have a kit you can't finish or a restoration that's come to a halt, this is the year to get it on the road.



3 - UPGRADE IT

The whole point of a kit car is to personalise it, so why not freshen up your car with a new season upgrade?



16 - USE IT

There's more to using a kit car than just driving your local lanes. Whether you plan your own European road trip or take your car track side, there is loads to do with your car in 2016.

Welcome...

Using Your Car In 2016 is here for just one reason... to inspire you to make full use of your kit car in 2016. The investment in time, energy and money can be significant with any kit car, whether you are building it from scratch, restoring it, upgrading it or buying a second-hand example. So there's absolutely no point it being sat idle in your garage for any longer than is absolutely necessary.

Using Your Car In 2016 is here to help you overcome any problems you may have with a car that has caused it to stagnate, to suggest ways in which you can improve your car and to point you in the right direction when it comes to getting your car back on the road... what can you do with your car beyond a local run out.

Above all else, there are people out there who can help you, from local club members to specialist garages and parts suppliers who will have those elusive components you may be struggling to find.

And what if you've yet to take the plunge and get a kit car? Why not make 2016 the year you buy a kit, or perhaps buy a pre-built car. *Using Your Car In 2016* can point you in the right direction.

14 - BUY A CAR...

There are several ways to buy a kit car if you don't fancy building your own



Get Back On The Road

The biggest danger for any kit car is that it either never reaches the road, or never returns to it after a winter hibernation or following repair work that never gets finished. Ian Stent looks at how to avoid that happening to you in 2016.

There are lots and lots of reasons why a kit car either never gets on the road, or never returns to it. But I cast iron guarantee you one simple thing... that if you can get your car roadworthy, after the first drive you'll immediately remember why you wanted a kit car in the first place. You will be completely re-invigorated about your kit car. It will be fantastic and the time and/or money spent getting it there will be well worth it.

There are three typical scenarios that might stop you enjoying your car in 2016.

1. It isn't finished yet
2. It came off the road for a minor repair or revamp and the work has never been completed.
3. It came off the road for the winter period and other things have stopped you retaxing and insuring it.

FINISH IT!

If you are in the midst of a kit car build project and making good progress, then you'll still have plenty of motivation to reach the end... and it will be worth it, believe me. But this article isn't really aimed at you. We're focusing more on

Right: Don't let your kit car look like this! It's all too easy to let small problems mothball a kit car for years. Make 2016 the year you get yours back on the road where it belongs.

Below: Stent's Cyclone has been off the road for longer than he'd care to remember. Will it hit the road in 2016? **Below right:** If you've run out of enthusiasm, get in contact with your local kit car club. Some clubs organise visits to club members to help progress projects that are stuck in a rut.



the project that may have stagnated, either because of a problem that hasn't been overcome, or perhaps simply because motivation has waned and the end seems a long way off.

First things first, you need to get your mojo back... to feel the excitement you had when you first began this journey. Remember that? There are two easy things you can do which will achieve exactly that.

First, make contact with your kit manufacturer, explain your situation and arrange for another trip to the factory to have a look at what's going on there and hopefully get a ride out in the demo car. Kit car manufacturers

are passionate about what they do and they'll be delighted to see you again and get you fired up about your car. If you are having specific problems with the assembly, they'll certainly be able to talk you through some suggestions. Above all, they want you to complete your car.

Second, make contact with a kit car club. This might be a model specific national club for your particular kit, or it might be a local club with all manner of different cars... it doesn't matter. If someone local is building your car, then you've the best of both worlds... make contact with them and get over to see it, whether completed or not.



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Even if your local club has no cars of your type, get along to a meeting and ask for a passenger ride in something. Just getting out in a kit car with an enthusiastic owner will do wonders for your own motivation. Some clubs will even offer helping sessions where everyone will come to your place and spend a day getting your project moving along again. It'll cost you a few bacon rolls and copious tea and biscuits... but it'll be well worth it.

So you have got some enthusiasm for your kit car again... how do you go about making proper progress? Our suggestion would be to split the build up into bite size chunks – things you can make decent progress with in a single weekend or over a period of a few weeks. If you can see jobs being completed, it's a great help to continued progress.

It may be that the build has ground to a halt because of a single issue and it may be one that you really cannot sort out at home. Although it's going to cost you something, now might be the time to call in the professionals.

GET SOMEONE ELSE TO FINISH IT!

This isn't a competition. It's not a test of virility and it doesn't have to be hard... it's not like training for the SAS! Building a kit car is a hobby and, as such, it should be enjoyable. It may be

Above: Sometimes it's worth calling in professional help. There are several companies around the UK specialising in kit car work, whether just a small job or complete rebuild. **Above right:** A visit back to the kit car manufacturer can be great for reinvigorating your enthusiasm for a kit build that's come to a halt. Get out in a car and remember what fun it all is.

Below right: Kit car manufacturers will often offer a build or partial build service, alongside kit production. They'll make light work of the job you may currently be finding difficult. It could be money well spent.



time to call in some professional help.

While you might be able to get your local garage to help you out with certain jobs, there are a number of experienced kit car specialists who can do anything from a small repair to a ground-up build (see panel below left). Most manufacturers now also offer a build service or are happy to undertake smaller jobs. The chances are there may be someone within an hour or so of you with real experience of working on kit cars who can overcome in double quick time a specific problem you are facing. All of which means you can suddenly be back building the car again or, potentially, driving it!

Calling in professional help will, of course, cost you some money, but if it's the difference between driving your car in 2016 or it sitting gathering dust in your garage, it could be the best money you spend. The useful contacts list here highlights many of the companies we know who can take on work for you, but don't also discount contacting your manufacturer. Either way, there are companies out there who can help.

GET IT REPAIRED

It often doesn't take much for a working kit car to fall into disrepair and off the road. It might be some dodgy wiring, a broken component that has never been replaced or the intention to freshen up something like the interior, that has never been completed. Often, these can be astonishingly simple and quick jobs to complete, but for whatever reason the work has never been done. Now is the time to put that right!

Grab a notepad and head into the garage. It's time to remind yourself what went wrong and what needs doing in order to start using your kit car again. As before, if there are several jobs, chop them up into bite size chunks so that you can make real progress each time you venture into the garage. What are the parts you need? Where can you get them? There are lots of fantastic suppliers dedicated to the kit car scene and who will have exactly what you need, whether it's a tiny electrical widget, engine performance upgrade or complete interior retrim. Do your research, talk to your



Useful Contacts Kit Car Builders/Repairers

Automotive Solutions and Racing T: 01773 719287. W: www.automotivesolutionsandracing.com
BAR Performance T: 01904 700913. W: www.barperformanceltd.co.uk
Birch Brothers T: 01274 834921. W: www.birchbros.org.uk
Irrtam Kitz T: 07951 567573. W: www.irrtam-kitz.co.uk
John Clarkson Autos T: 01942 818745. W: www.johnclarksongarage.co.uk
Luego/Crosshill Garage T: 01329 220755. W: www.luegosportscars.com
R-TEC Motorsport T: 07841 535715. W: www.rtecmotorsports.com
Regal Classics W: www.regalclassics.co.uk
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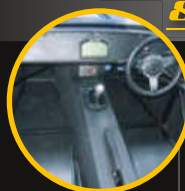
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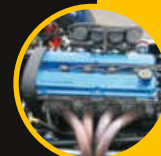
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manufacturer and get the parts. And then get the car back on the road!

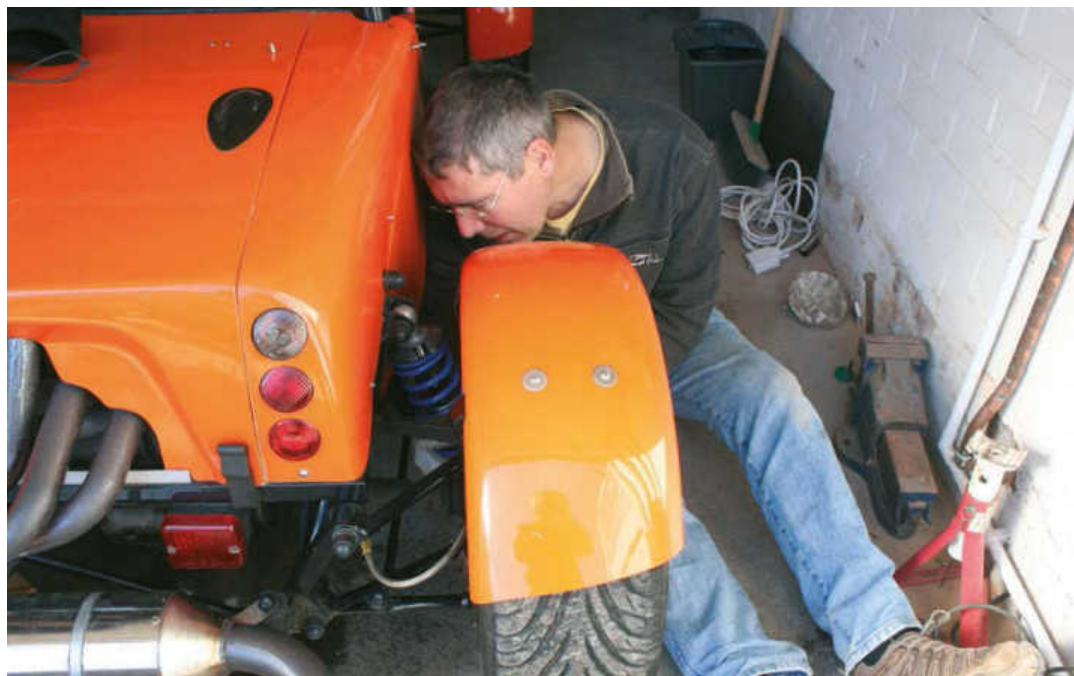
As before, if you simply don't see yourself completing the work, perhaps it's time to call in professional assistance. One final piece of advice... don't be too ambitious. It may have been your dream to have a certain type of component or upgrade, but if the dream requires frankly ludicrous investment or a bespoke part made specially, it may be wiser to aim a little lower, just to get the job done... after all, you can always get the item you'd dreamt of at a later stage and at least you'll be enjoying your car again in the meantime.

POST-WINTER CHECKS

Perhaps there's no problem with your car at all. You have just tucked it up in your warm garage for the winter and it only needs taxing and insuring again. Before you do, there are a number of sensible checks you can do on your car to make sure that first drive doesn't end in tears.

Some of us are incredibly organised when it comes to putting our car away at the end of a season, but I suspect the rest of us give it a final end of season clean and then roll it into the garage, job done. Now is a good time to think back and remember some of the niggling jobs you meant to do last year, but never did... perhaps a brake service, with new discs and pads, or worn ball joints on the end of the steering arms, or a handbrake that's not working as well as it used to. It may be the carburettors needed servicing, or there was a leak you never quite tracked down in the cooling system.

If there was nothing obvious, then it's time to just give the car a once-over. Hopefully you'll have been keeping the battery charged over the winter and it will be raring to go. Connect it up and make sure all the electrics are working, brake lights etc. Next check for any leaks from



Above: Before getting your car on the road after its winter hibernation, give it a thorough check over.

Bottom: Check the car carefully and if items need servicing, such as the wheel bearing seen here, it's much better to get the job done early rather than take the car off the road in prime summer driving weather. **Below right:** Check in the engine bay for any oil leaks or water leaks when you first start the engine. **Below:** Rubber hoses can harden and crack over time.



the brake and fuel lines. Check the suspension is all working freely and the dampers aren't leaking and any damper adjusters are freely moving.

As you are moving around the car, check all the nuts and bolts are tight, look for anything that may have worked loose over last summer that you hadn't noticed previously.

In the engine bay have a good look around for any oil leaks you may not have spotted last autumn. Look for any loose wiring that could get caught up in the fan belt or rest on the exhaust. Is the cooling system topped up... does it need flushing out and replacing?

When it comes to starting the engine after an extended break, it's worth unscrewing a spark plug or two and turning the engine over for a minute to get the oil circulating around the engine before first start up. Having checked you have fuel in the tank, it's time for a start, this time

letting the car warm up fully while at home on the drive. Pay particular attention for coolant leaks where rubber hoses may have dried out over the winter. Also make sure the fan cuts in at the correct temperature and then cuts out again once the system has been sufficiently cooled. On the first drive, take things steady, check the brakes and give everything time to warm up properly.

GET IT ON THE ROAD!

But above all else, the critical thing for you to achieve this year is to get your kit car on the road and enjoy it. Whether you do the work yourself, call in the experts or simply buy the car you've always dreamt of, make 2016 the year you make it happen. In the next part of the supplement, we'll give you some ideas of upgrades you may want to consider for your car. ■



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Do Some Upgrades

One of the joys of kit car ownership is the ability to change, tune and upgrade your car at any time. Might 2016 be the year to do it?

While it's obviously vital to service your car before you use it this summer, now may also be the time to consider some upgrades. Instead of simply replacing the brake discs and pads, an upgrade to these vital components can have a significant impact on the way your car performs, even before you consider moving to aftermarket 4-pot calipers.

If your coil-over dampers are in good condition, it may be that you've always felt the ride is a little too firm or soft. Replacement springs are surprisingly affordable (typically around £25 each), so buying a full set or just a pair to change the dynamics of your car's ride can have a significant impact for not a lot of cash. More significantly, a complete new set of performance coil-over damper units can have a huge impact on the way your car handles and rides.



Right: If you need a high performance aluminium radiator for additional cooling, several companies can make something to your specification.



Left: A set of performance tyres can transform the way your car handles, but be careful not to go too extreme if most of your driving is on public roads.

Bottom: Performance coil-over dampers can dramatically improve the way your car drives. Even just changing the springs can make a significant difference. **Below and right:** A standard ECU will have limited ability in a kit car. An aftermarket unit can offer a wide variety of benefits, not just improved engine power.



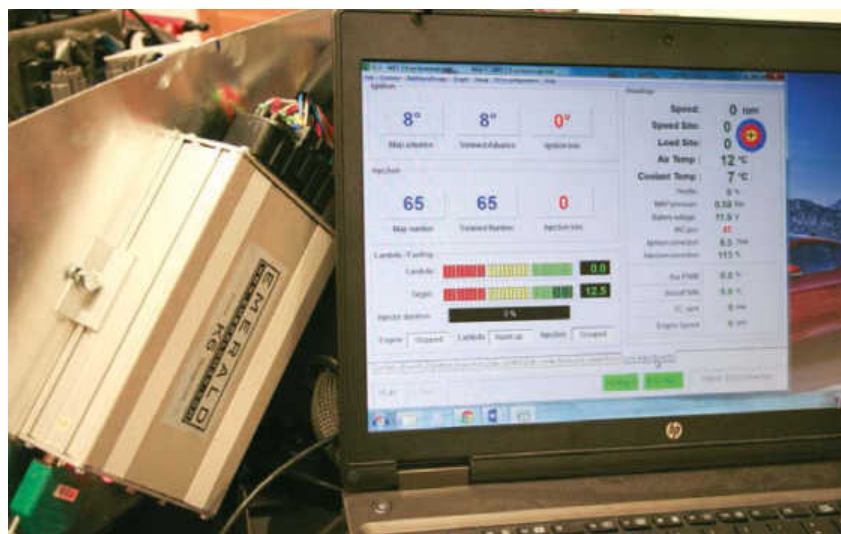
If cooling is an issue, there are now lots of companies offering high performance aluminium rads, either in a standardised size (for a typical sevenesque kit) or bespoke units made to your specification. Getting your car's cooling working correctly not only ensures the survival of your engine, but also means you don't spend your driving time worried about getting caught in traffic with embarrassing roadside overheating woes.

If your tyres are looking a bit tired, then upgrading to a higher performance product could be worth considering, but don't go so extreme as to detrimentally effect performance in more mundane

situations.

Suspension set-up is something often overlooked with kit car owners, but getting your suspension geometry correct can have a dramatic effect on how easy the car is to drive and its ultimate handling ability. Companies such as Track developments and Northampton Motorsport are industry experts when it comes to our scene.

We all want more power, don't we? With more modern engines there are now endless different ways of extracting more performance. A move to aftermarket throttle bodies, bike carbs or perhaps forced induction can yield dramatic improvements.



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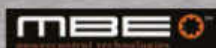
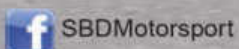


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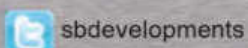
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Most companies will offer a complete conversion kit, but other specialists can fabricate a bespoke inlet manifold to match your chosen induction system to your engine.

And don't discount the more subtle stuff. If your car retains the donor's engine management system, then a move to an aftermarket ECU will not only yield more performance, but can also improve the way the engine runs... how well it idles or drives in traffic. An aftermarket ECU can also be used to control other aspects of the car, such as when the cooling fan cuts in.

Whether you are running an old Ford

Above: Aftermarket throttle bodies are a popular upgrade for injection engines. **Above right:** Companies such as SBD can build you an engine or supply the parts to assemble your own.



or Vauxhall engine, or more modern unit, there are some fabulous tuning specialists who can offer not just the parts to gain more power, but also the ancillary components to ensure it will stay cool and perform reliably.

And don't forget the gearbox too. Standard gearboxes often don't suit the new engines they are mated to, and they may not be up to repeated punishment on track days. Companies such as BGH Geartech can supply modified internals designed specifically for typical kit car installations, while others such as

Flatshifter offer quick shift mechanisms for sequential bike transmissions.

Upgrades don't have to be purely about performance. They could just as easily centre on the cockpit, upgrading perhaps the seats, gauges or perhaps a complete interior retrim. Some jobs can be relatively swift, while others will take a little longer but all will give your car a new lease of life. And now, before the season really gets underway, is the time to do it.

There are also things to look at on the outside of your car. It may be a new carbon silencer in the exhaust system, or some new chrome headlights to replace the old ones that have begun to go rusty (you'll be amazed at the wide variety of lighting options available from the likes of SVC and others). Beyond that, you can dramatically change the look of your car with a new set of alloys, or perhaps a partial or full respray or vinyl wrapping.

Of course in reality there are endless areas of your car that you can tweak and upgrade – that's half the appeal of a kit car, but getting these done before the main summer driving season gets underway will ensure you don't lose driving time just when you want it. ■



Above: Upgrading your seats is a relatively quick and easy job that can yield dramatic results. **Below left:** There's no end to the mechanical mods you can do!

Below: An interior revamp can give your car a new lease of life.



Useful Contacts Upgrades/tuning

Allisport T: 01594 826045. W: www.allisport.com
Acewell T: 01670 898402. W: www.acewell.co.uk
Automec T: 01280 822818. W: www.automec.co.uk
BGH Geartech T: 01580 714114. W: www.bhggeartech.co.uk
Bogg Bros T: 01944 738234. W: www.boggbros.co.uk
Burton Power T: 020 8518 9189. W: www.burtonpower.com
Cambridge Motorsport Parts T: 01462 684300. W: www.cambridgemotorsport.com
Car Builder Solutions T: 01580 891309. W: www.carbuildersolutions.co.uk
DanST Engineering T: 01274 580213. W: www.danstengineering.co.uk
Daytuner T: 01423 523323. W: www.daytuner.co.uk
EBC Brakes W: www.ebcbrakes.com
Europa Spares T: 01283 815609. W: www.europaspares.com
Flatshifter T: 01206 322 557. W: www.flatshifter.com
HiSpec Motorsport T: 01322 286850. W: www.hispecbrake.co.uk
Interiors Seating T: 01623 400660. W: www.interiorsseating.co.uk
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Northampton Motorsport T: 01604 766 624. W: www.northamptonmotorsport.com
Rally Design (Wilwood) T: 01227 792792. W: www.rallydesign.co.uk
SBD Motorsport T: 0208 391 0121. W: www.sbdev.co.uk
Siltech Racing T: 01362 820456. W: www.siltechracing.com
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Buy A Car!

Been thinking about a kit car for years? Make 2016 the year you make it happen.

This supplement is all about making sure you enjoy your car in 2016, and one of your new year resolutions could well be to take the jump from armchair enthusiast to becoming a kit car owner. While building a car is an achievement like few others, you can fast track your kit car ambitions by buying a pre-built car.

As with a normal car purchase, you have options in terms of where you buy your car from... a private enthusiast, a second-hand dealer or even from the manufacturer itself (either second-hand or brand new).

Like any pre-owned purchase, it's buyer beware, so you need to have your wits about you and go with a checklist of reminders of things to ask and look for. Key to any purchase these days is that the car is correctly registered - vitally, that the V5 document accurately describes the car you are looking at and it's not still registered as the donor car.

If you fancy a little more security than buying privately, a number of companies

Right: Several kit car manufacturers will build you a brand new car from scratch, such as this beautiful aluminium bodied Hawk Kirkham 289.



Bottom: Toybox Cars specialises in sevensque kit cars and in particular Westfields. **Below right:** Total Headturners has a vast selection of cars, with Cobra replicas a focus.

Bottom right: Hallmark Cars is another Cobra replica specialist.

specialise in the sale of kit cars. Cars are checked over more thoroughly and usually come with some form of warranty. Some of these companies tend to specialise in a particular type of car. Toybox Cars always has loads of Westfields (and a few other sevensque cars) in stock, while the likes of Total Headturners, Hallmark Cars and Sovereign Cars will typically have lots of Cobras in stock. Check out the websites of all the companies listed in the Useful Contacts panel here to see what they have to offer.

Of course, another option is to have a brand new car built to your specification. Most manufacturers can offer this service, or have an approved build company who does the spannerwork. Alternatively, a number of independent build companies can do the work for you, and these are often the same companies who will

do repairs, partial builds and finish off those kits that have come to a halt with the home builder.

Do your homework and buying a pre-owned kit car can be a great way to fast track yourself into kit car ownership. It can also be the perfect way to find out whether a future kit car build is for you. If you enjoy maintaining and upgrading your second-hand purchase, the lure of building your own car can become overwhelming. Perhaps that's the project for 2017? ■



Useful Contacts Kit Car Sales

Absolutely Kit Cars T: 01702 231319. W: www.absolutelykitcars.co.uk
Hallmark Cars T: 020 8500 1991. W: www.hallmark-cars.com
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What To Do In Your Car

Let's suppose your car is MoT'd, taxed, insured and ready to go with a full tank of fuel. What are you going to do with it to make the most of kit car ownership? Here are our suggestions...

It's all very well spending the time building and maintaining your kit car in the garage, but what do you do with it once it's finished and ready to go? Judging by the very low mileages many kit cars cover, it's something that many owners struggle with – but a whole world of adventure awaits if you get out there and use your car.

JOIN A CLUB

An easy way to get out and enjoy your car is to seek out those of a like mind. There's a thriving kit car owners' club scene, with some being more active than others. There are two kinds of club to join – marque-specific organisations that tend to be nationwide, or local clubs that welcome all makes of kit car.

Either will probably have meetings and runs in your area, and it's a very easy way to make an excuse to get the car out. You can find a full club listing on our website at www.completekitcar.co.uk

UK ROAD TRIPS

There are lots of great places to visit in the UK, and the easiest ways to discover them are to either join in with an owners' club run or to sign yourself up for an organised event run by the likes of the Classic Car Tours (see listing

Right: Joining a club is a great way to get out in your car. There's always an excuse for a run out!



in panel on the opposite page).

If you want to find your own way, here's just a selection of great driver's roads – each of which also happens to be in a great tourist area of the country...

You can't go too far wrong in most of Wales, but the *Evo* Triangle is well worth the trip. The loop of A5, A543 and B4501 has been made famous by *Evo* magazine, who use it as a test route. It has a great mix of sweeping corners and slower, more challenging turns that are just the sort of thing you build a car for in the first place. To make it easy to find, look for

Cerrigydrudion, which is in the bottom 'corner' of the triangle.

Further north and across the border into Scotland, the A87 that runs west out of Invergarry combines stunning views with a brilliant driver's road. Catch a decent sunset past Loch Garry and you're in for a treat. Keep going until the end of the road 100 miles later and you'll almost have reached the top of the Isle of Skye, which is also recommended.

Another road well worth searching out is the 35-mile stretch of the A666 from Penrith to Haydon Bridge. The national speed limit sections are

Below: Plenty to explore in Europe... **Below right:** ...or even if you stay in the UK.





interrupted by picturesque villages, and it mixes flat topography and a 1904ft summit, which is home to a café that makes a good place to stop for the views alone.

EUROPEAN ROAD TRIPS

Don't limit your kit car adventures to the UK. We often run readers' road trip stories that have taken them well into Europe and, as long as you're prepared with the legal requirements of different countries and decent breakdown cover (!), going abroad in your kit car should hold no more trepidation than it does in your regular road car.

Popular destinations include the



Above left: The London to Brighton run is increasingly popular. **Above:** Stoneleigh show considered a must-visit by many kit car owners.

Alps – the Stelvio Pass being the most obvious of the mountain roads – but don't discount less popular (and less busy!) mountain routes. Other popular destinations include Le Mans and the Nürburgring, and even overseas track days are worth considering. If you live near a port, they can even be cheaper overall than UK equivalents.

And if you prefer safety in numbers? Various tour companies offer packages, and there are many clubs that organise longer road trip events. What's stopping you?

SHOWS AND EVENTS

Only one traditional dedicated kit car show remains. The Stoneleigh show, to be held on 1/2 May 2016, is the biggest kit car show in the world, and there's nothing quite like being there with your own kit car.

In addition, there are other events that have dedicated kit car elements. Events like the Classic, Kit and Retro Action Day at Castle Combe and the London to Brighton run bring kits and classics together, with the former challenging the latter for overall attendance. At the time of going to press, some dates and details are still to be confirmed, but we've included our pick from the calendar in the separate panel.

TRACK DAYS

Track days are a great way to stretch your car – and yourself – and find out its capabilities in a safe environment. Preparation is minimal: it will need to be in an MoT condition (but MoT

Shows and events

MARCH

28 Motorfest Weston Park, Shropshire. Well established classic car show, special Club CKC area.
E: ian@performancepublishing.co.uk

APRIL

24 Drive It Day Events nationally, including Drive It Day Scotland. W: www.classic-car-tours.com

MAY

1/2 National Kit Car Motor Show Stoneleigh Park, Warwickshire. World's biggest kit car show. T: 01406 372600.
W: www.nationalkitcarshow.co.uk

12/13/14/15/16 Spa Classic Historic motorsport event at Belgium's grand prix venue. W: www.spa-classic.com

14 CKC/Omex Track Day Llandow, near Cardiff. Exclusive kit car track day with discounts for CKC subscribers.

E: ian@performancepublishing.co.uk

30 Motor Show Ragley Hall, Warwickshire. Well established classic car show, special Club CKC area.

E: ian@performancepublishing.co.uk

JUNE

5 London to Brighton Kit and Sports Car Run Increasingly popular event that runs from the capital to the seaside!

W: www.classicmotorevents.co.uk

Date 24 Classic, Kit and Retro Action Day Castle Combe, Wiltshire. Take your car on track and see manufacturers' demos in action.

18/19 Le Mans 24-hour Regular trip for many kit car owners. Private campsites recommended!

W: www.24h-lemans.com/en/

23/24/26/26 Goodwood Festival of Speed A motorsport gathering like no other! W: www.goodwood.com

JULY

8/9/10 Le Mans Classic Historic racing around the clock. W: www.lemansclassic.com

14/15/16/17/18 Champagne Tour Reims Tour organised by Classic Car Tours. W: www.classic-car-tours.com

24 Kent's Kit, Custom and American Car Show Aylesford Priory. Small but friendly outdoor gathering.

W: www.kentskitandcustomcarshow.co.uk

29/30/31 Silverstone Classic Big historic motorsport event at the UK's grand prix venue. W: www.silverstoneclassic.com

AUGUST

4/5/6/7/8 Scottish Highland Tour Tour organised by Classic Car Tours. W: www.classic-car-tours.com

29 Annual Knebworth Classic Motor Show Knebworth House, Hertfordshire. Established show, special Club CKC area.

E: ian@performancepublishing.co.uk

SEPTEMBER

9/10/11 Goodwood Revival More than just a motor racing meeting – a complete unique atmosphere at this historic event. W: www.goodwood.com

NOVEMBER

Date TBC Classic Vehicle Restoration Show Bath and West Showground, Shepton Mallet. Dedicated indoor kit car club area hosted by CKC. W: www.carsandevents.com

*all dates correct at time of going to press. Please confirm with organisers before making travel arrangements.

and tax aren't usually required... check with the organiser), and you'll need a crash helmet and, if it's an open-top car, covered arms and legs.

You can opt to trailer the car to the event, which will give you peace of mind in the event of damage or a mechanical failure, but many don't. On the subject of the former, specialist track day insurance is available as your road policy will not cover you for damage on track. Similarly, if someone else crashes into your car on track the repair bill is yours – not theirs. Fortunately, those sorts of incidents are rare on track days.

It's not unusual for track day first-timers to feel a little intimidated. Everyone in the paddock will look like they know exactly what they're doing and you'll probably worry about being slow.

Don't fear: as long as you move out the way of faster cars, nobody is going to care how quickly – or otherwise – you're going. And you'll enjoy the day much more if you start slowish and build the pace gradually.

There are two ways in which track days are run: sessions and open pitlane. The former divides participants into groups based on experience and sends them out together, typically for around 15 or 20 minutes at a time. An open pitlane allows you to go out on track when you please and for however long you like. Some track day organisers put on days specifically for novices, and as a general rule flat former airfield circuits (such as Silverstone or Snetterton) are easier to get to grips with than 'park' circuits (like Brands Hatch or

Right: Could 2016 be the first year you take your kit car on track?



Cadwell Park).

Without too blatant a plug, our own CKC/Omex track day is great for first-timers thanks to its friendly kit car exclusive paddock. See page 12 of the main magazine for booking details for 2016's event, on 14 May.

GO RACING

If you've already done a number of track days, chances are you've wondered about graduating to motorsport. Could 2016 be the year you make the leap?

There's no escaping the fact that all forms of motorsport are not cheap, but some are more affordable than others. However, organisations such as the

750 Motor Club have championships designed to accept existing road-going kit cars that have been adapted for motorsport, rather than necessarily requiring a racing car to be built from the ground up.

Necessary car preparation is outlined in the MSA's Blue Book, and includes specific features such as an approved roll-over bar, plumbed-in fire extinguisher, battery cut-off switch and so on. You'll also need to kit yourself out with overalls, gloves, boots and a crash helmet – and you'll need a race licence, which involves a practical and written ARDS test, which are available at numerous circuits around the UK.

Once you've done all that, costs to enter the 750 Motor Club are £20 for club membership, £120 to register for your chosen championship and an entry fee of £245 to £305 per meeting (all of which include qualifying and two races).

The best way for a newcomer to get a handle on what's necessary is to visit a race and chat to competitors in the paddock. They're friendly and approachable, and always welcoming to new racers on the grid.

Other motorsport options include sprinting and hillclimbing, where you're not sharing the track with other competitors, or even autotesting – a highly skilled discipline where you perform high-speed, timed manoeuvres around coned courses. Lightweight kit cars are ideal for those forms of motorsport.

For many kit car builders, the joy is in assembling their cars, and once they've finished they quickly move on to the next project. For others, finishing the build is only the start... and there's a whole lot to discover in your kit car. Get out there in 2016! ■

Below: Fancy going racing? Your existing kit car can probably be modified for competition.





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RGB

Now in its 15th season, the Club's 'Road-Going Bike-engined' formula is intended for two-seater cars in MOT compliant form. All entries use a sub-1000cc naturally aspirated four-stroke bike engine, however two classes exist – one for front-engined, and one for mid or rear-engined cars.

Entries range from championship specific kits, to modified road cars and scratch-built specials. Regulations allow freedom in terms of chassis design, bodywork, suspension and brakes.

www.750mc.co.uk/formulae/rgb

www.facebook.com/rgbchamp



Sports Specials

The formula for kit cars using production car powerplants, Sports Specials has three classes – one for Ford Zetec-engined cars, one for Duratec, and one for other two-seater, naturally aspirated cars with a maximum of 340bhp per tonne.

With a field that includes everything from one-off specials to 'off the shelf' kit cars and Sevens of all descriptions, Sports Specials offers both a fascinating grid and an affordable championship.

www.750mc.co.uk/formulae/sports-specials

www.facebook.com/sportsspecials



Locost

The most cost effective circuit racing available in a Seven, Locosts use the classic design as laid out in Ron Champion's 'Build Your Own Sports Car' book, along with a near-standard 1300cc Ford Crossflow engine.

Costs are tightly regulated, donor parts are readily available, and cars are built to a high standard. With famously close racing, Locost grids are usually as large as allowable at most UK circuits.

www.750mc.co.uk/formulae/locost

www.facebook.com/750mcLocost



Bikesports

Offering some of the fastest lap times seen in club motorsport, Bikesports offers four capacity classes, all of which cater for four-stroke naturally aspirated motorbike engines. Although using a chassis from a manufacturer such as Spire or Radical is common, one-off designs are also welcome, as are both single and two-seater layouts. Cars run on slick tyres and both engine and aerodynamic development is permitted.

www.750mc.co.uk/formulae/bike-sports

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